

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **APPTF-SAV-BAY** **Appomattox River**

Location: Tidal Appomattox River Estuary

City / County: Chesterfield Co. Colonial Heights City Hopewell City Petersburg City Prince George Co.

Use(s): Aquatic Life Shallow-Water Submerged  
Aquatic Vegetation

Cause(s) /

VA Category: Aquatic Plants (Macrophytes) / 5A

The Chesapeake Bay Water Quality Standards were adopted during the 2006 cycle. During the 2008 cycle, the Appomattox River Tidal Fresh segment (APPTF) failed the Submerged Aquatic Vegetation acreage requirements, and the water clarity Acreage criteria.

Appomattox River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Aquatic Plants (Macrophytes) - Total Impaired Size by Water Type:			
	<b>2.705</b>		

Appomattox River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Shallow-Water Submerged Aquatic Vegetation</b>			
Aquatic Plants (Macrophytes) - Total Impaired Size by Water Type:			
	<b>2.705</b>		

Sources:

Agriculture	Atmospheric Deposition - Nitrogen	Clean Sediments	Industrial Point Source Discharge
Internal Nutrient Recycling	Loss of Riparian Habitat	Municipal Point Source Discharges	Sediment Resuspension (Clean Sediment)
Sources Outside State Jurisdiction or Borders	Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)		

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **CHKOH-DO-BAY** Chickahominy River

Location: The tidal Chickahominy River estuary.

City / County: Charles City Co. James City Co. New Kent Co.

Use(s): Aquatic Life Open-Water Aquatic Life

Cause(s) /

VA Category: Oxygen, Dissolved / 5A

During the 2006 cycle, the Chesapeake Bay Water Quality Standards were adopted. The oligohaline Chickahominy River estuary failed the Open Water 30-day summer dissolved oxygen criteria.

Chickahominy River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:	<b>9.643</b>		

Chickahominy River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Open-Water Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:	<b>9.643</b>		

### Sources:

Agriculture	Atmospheric Deposition - Nitrogen	Industrial Point Source Discharge	Internal Nutrient Recycling
Loss of Riparian Habitat	Municipal Point Source Discharges	Sources Outside State Jurisdiction or Borders	Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **EBEMH-DO-BAY** Eastern Branch, Elizabeth River and Indian River

Location: This cause encompasses the Eastern Branch of the Elizabeth River, from Broad Creek (RM 4.0) downstream to the confluence with Elizabeth River mainstem, and the entirety of Indian River. CBP segment EBEMH. Located between Tanglewood area to mouth.

City / County: Chesapeake City Norfolk City

Use(s): Aquatic Life Open-Water Aquatic Life

Cause(s) /

VA Category: Oxygen, Dissolved / 5A

The Aquatic Life and Open-Water Aquatic Life Uses are impaired based on failure to meet the CBP dissolved oxygen criteria for Open Water - Summer & "Rest of Year (ROY) for the 2008 IR cycle.

Eastern Branch, Elizabeth River and Indian River

### Aquatic Life

Oxygen, Dissolved - Total Impaired Size by Water Type:

Estuary  
(Sq. Miles)

**2.028**

Reservoir  
(Acres)

River  
(Miles)

Eastern Branch, Elizabeth River and Indian River

### Open-Water Aquatic Life

Oxygen, Dissolved - Total Impaired Size by Water Type:

Estuary  
(Sq. Miles)

**2.028**

Reservoir  
(Acres)

River  
(Miles)

### Sources:

Agriculture

Atmospheric Deposition -  
Nitrogen

Industrial Point Source  
Discharge

Internal Nutrient Recycling

Loss of Riparian Habitat

Municipal Point Source  
Discharges

Sources Outside State  
Jurisdiction or Borders

Wet Weather Discharges  
(Non-Point Source)

Wet Weather Discharges  
(Point Source and  
Combination of Stormwater,  
SSO or CSO)

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **ELIPH-DO-BAY** Chesapeake Bay segment ELIPH (Elizabeth River Mainstem)

Location: This cause encompasses the complete CPB segment ELIPH

City / County: Norfolk City Portsmouth City

Use(s): Aquatic Life Open-Water Aquatic Life

Cause(s) /

VA Category: Oxygen, Dissolved / 5A

The Aquatic Life and Open-Water Aquatic Life Uses are impaired based on failure to meet the CBP dissolved oxygen criteria for Open Water - Summer & "Rest of Year (ROY) for the 2008 IR cycle. The 30-day dissolved oxygen criteria for open water use failed for the 2008 assessment. There is insufficient data to assess remaining shorter-term dissolved oxygen criteria for this use.

Chesapeake Bay segment ELIPH (Elizabeth River Mainstem)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:	<b>8.186</b>		

Chesapeake Bay segment ELIPH (Elizabeth River Mainstem)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Open-Water Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:	<b>8.186</b>		

### Sources:

Agriculture	Atmospheric Deposition - Nitrogen	Industrial Point Source Discharge	Internal Nutrient Recycling
Loss of Riparian Habitat	Municipal Point Source Discharges	Sources Outside State Jurisdiction or Borders	Wet Weather Discharges (Non-Point Source)
Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)			

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G01E-01-BAC** James River

Location: Estuarine James River from the fall line at Mayos Bridge downstream to the Appomattox River.

City / County: Charles City Co. Chesterfield Co. Henrico Co. Hopewell City Richmond City

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A

The James River from the fall line to the Appomattox River has been assessed as not supporting of the Recreation use support goal based on the results of a summer special study in the fall zone. The special study was designed to monitor the effects of summertime rain and combined sewer overflow (CSO) events on water quality in the James River and to monitor the effects of Richmond's CSO abatement efforts.

The segment has been included on the Impaired Waters list for fecal coliform since 1996. During the 2004 and 2006 cycles, the bacteria standard changed to E.coli for those stations with enough data. Some of the areas in this segment had converted to the E.coli standard, for others the fecal coliform standard was still in effect. During the 2008 cycle, the impairment was converted solely to E. coli. The TMDL for bacteria is due in 2010.

Bacteria impairment is noted at the following stations:

2-JMS109.39  
2-JMS107.51  
2-JMS104.46  
2-JMS099.30  
2-JMS087.01

James River

**Recreation**

Estuary  
(Sq. Miles)

Reservoir  
(Acres)

River  
(Miles)

Escherichia coli - Total Impaired Size by Water Type: **6.750**

Sources:

Combined Sewer Overflows Non-Point Source

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G01E-02-CHLA**      **James River**

Location: Mainstem James River from the fall line at Mayos Bridge downstream to the JMSTFu/JMSTFI boundary at the Appomattox River.

City / County: Charles City Co.      Chesterfield Co.      Henrico Co.      Richmond City

Use(s): Aquatic Life      Open-Water Aquatic Life

Cause(s) /

VA Category: Chlorophyll-a / 5A

The James River from the Appomattox River to the Chickahominy River was originally listed on the 1998 list as fully supporting but threatened of the Aquatic Life Use goal based on chlorophyll a violations. During the 1998 cycle, EPA extended the segment upstream to the fall line and downgraded the river to not supporting the Aquatic Life Use, citing nutrient concerns.

In previous cycles, the mainstem James River had acceptable dissolved oxygen levels. In addition the entire tidal freshwater portion (fall line to just above the Chickahominy River) has good benthic community based on the results from the Chesapeake Bay Benthic Index of Biological Community; therefore the James River from the fall line to the oligohaline boundary was considered impaired solely for Nutrients/Eutrophication Biological Indicators (EPA Overlist).

A special site-specific chlorophyll standard for the mainstem James River was adopted during the 2008 cycle. The upper tidal freshwater segment exceeded both the spring and summer seasonal means.

James River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Chlorophyll-a - Total Impaired Size by Water Type:	<b>6.003</b>		

James River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Open-Water Aquatic Life</b>			
Chlorophyll-a - Total Impaired Size by Water Type:	<b>6.003</b>		

Sources:

Industrial Point Source  
Discharge

Municipal Point Source  
Discharges

Non-Point Source

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G01E-03-PCB**

### James River and Various Tributaries

Location: Estuarine James River from the fall line to the Hampton Roads Bridge Tunnel, including several tributaries listed below.

City / County: Charles City Co.	Chesapeake City	Chesterfield Co.	Colonial Heights City	Dinwiddie Co.
Hampton City	Henrico Co.	Hopewell City	Isle Of Wight Co.	James City Co.
New Kent Co.	Newport News City	Norfolk City	Petersburg City	Portsmouth City
Prince George Co.	Richmond City	Suffolk City	Surry Co.	Williamsburg City

Use(s): Fish Consumption

Cause(s) /

VA Category: PCB in Fish Tissue / 5A

During the 2002 cycle, the James River from the Fall line to Queens Creek was considered not supporting of the Fish Consumption Use due to PCBs in multiple fish species at multiple DEQ monitoring locations.

During the 2004 cycle, a VDH Fish Consumption Restriction was issued from the fall line to Flowerdew Hundred and the segment was adjusted slightly to match the Restriction. In addition, In the 2004 cycle, the Chickahominy River from Walkers Dam to Diascund Creek was assessed as not supporting the Fish Consumption Use because the DEQ screening value for PCBs was exceeded in 3 species during sampling in 2001.

During the 2006 cycle, the VDH restriction was extended on 12/13/2004 to extend from the I-95 bridge downstream to the Hampton Roads Bridge Tunnel and include the tidal portions of the following tributaries:

Appomattox River up to Lake Chesdin Dam

Bailey Creek up to Route 630

Bailey Bay

Chickahominy River up to Walkers Dam

Skiffes Creek up to Skiffes Creek Dam

Pagan River and its tributary Jones Creek

Chuckatuck Creek

Nansemond River and its tributaries Bennett Creek and Star Creek

Hampton River

Willoughby Bay and the Elizabeth R. system (Western, Eastern, and Southern Branches and Lafayette R.) and tributaries St.

Julian Creek, Deep Creek, and Broad Creek

The advisory was modified again on 10/10/2006 to add Poythress Run.

The impairments were combined. The TMDL for the lower extended portion is due in 2018.

James River and Various Tributaries

#### Fish Consumption

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
PCB in Fish Tissue - Total Impaired Size by Water Type:	<b>247.092</b>		<b>7.50</b>

Sources:

Contaminated Sediments

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G01L-01-BAC**      **Falling Creek Reservoir**

Location: Falling Creek Reservoir

City / County: Chesterfield Co.      Richmond City

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

The lake was subject to historical chronic problems resulting from nutrients and organic loadings. It was listed in 1998 as not supporting the Public Water Supply use and threatened of the ALUS.

During the 2008 cycle this segment was impaired for recreation use with a E.coli violation rate of 2/12 at station 2-FAC005.78.

Falling Creek Reservoir	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>88.37</b>

Sources:

Non-Point Source      Source Unknown



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G01R-01-BAC**      **Goode Creek**

Location: Goode Creek from the confluence with Broad Rock Creek to its mouth at the James River.

City / County: Richmond City

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

During the 2006 cycle, Goode Creek was assessed based on past sampling at 2-GOD000.07 and a fecal coliform violation rate of 6/8 at 2-GOD000.77 (Commerce Road). E. coli was added as an impairing cause based on a violation rate of 5/8 at 2-GOD000.77.

During the 2008 cycle, the impairment converted solely to E. coli; the violation rate was 9/27 at 2-GOD000.77.

Goode Creek	Estuary	Reservoir	River
<b>Recreation</b>	(Sq. Miles)	(Acres)	(Miles)
Escherichia coli - Total Impaired Size by Water Type:			<b>1.22</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G01R-02-BAC**      **Almond Creek**

Location: Almond Creek from its headwaters to its mouth at the James River, including unnamed tributaries.

City / County: Henrico Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

Almond Creek was assessed not supporting of the Recreation use support goal based on a fecal coliform standard violation rate of 9/20 recorded at the Route 5 bridge (2-ALM000.42). During the 2006 cycle, E. coli was added as an impairment because of violations at 2-ALM000.42. During the 2008 cycle, the impairment converted to E. coli and the segment remained impaired due to an E. coli violation rate of 5/21 at 2-ALM000.42. The segment has been listed since the 1998 cycle, therefore the TMDL is due in 2010.

Almond Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>2.08</b>

Sources:

Non-Point Source      Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G01R-02-PH**      **Almond Creek and UTs XVO and XVP**

Location: Almond Creek from its headwaters to its mouth at the James River, including unnamed tributaries.

City / County: Henrico Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 5A

In 2004, Almond Creek was considered impaired of the Aquatic Life use due to pH violations at 2-ALM000.42 as well as pH violations at station located on UTs downstream of the BFI landfill (2-XVO000.10 and 2-XVP000.04). The impairments continued in the 2006 cycle. However, during the 2008 cycle, the pH violation rate was acceptable at 2-ALM000.42, as well as at new station 2-ALM000.92; therefore the UTs XVO and XVP were split off from the mainstem segment. UT XVP continues to be considered impaired due to pH violations at 2-XVP000.04, however Almond Creek itself is considered a partial delist. The pH TMDLs are due in 2016.

Almond Creek and UTs XVO and XVP	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			2.47

Sources:

Landfills

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G01R-03-BAC**      **Falling Creek**

Location: Falling Creek from the Falling Creek Reservoir dam to its extent of tide

City / County: Chesterfield Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

Falling Creek was initially assessed as not supporting of the Recreation use support goal in 2002 based on fecal coliform standard violations recorded at the Route 1 bridge (2-FAC000.85). During the 2006 cycle, the impairment was switched to E. coli based on a violation rate of 2/12. The violation rate in the 2008 cycle was 8/39.

Falling Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>3.10</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G01R-04-BAC**      **Falling Creek**

Location: Falling Creek from its headwaters downstream to the extent of backwater at Falling Creek Reservoir.

City / County: Chesterfield Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

Falling Creek from its headwaters downstream to Falling Creek Reservoir was initially assessed as not supporting the Recreation Use during the 2006 cycle based on the bacteria violations at the Route 651 bridge (2-FAC009.46) and at the Route 720 bridge (2-FAC017.80).

During the 2008 cycle, the impairment converted solely to E. coli and had the following violation rates:

5/33 at 2-FAAC009.46  
5/22 at 2-FAC012.96 (Rt. 360 bridge)  
3/11 at 2-FAC017.80

Falling Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>16.55</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G01R-04-DO**      **Falling Creek**

Location: Falling Creek from Gregorys Pond downstream to the confluence with Horners Run.

City / County: Chesterfield Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Oxygen, Dissolved / 5A

During the 2008 cycle, this segment of Falling Creek was assessed as not supporting of the Aquatic Life Use due to a dissolved oxygen violation rate of 3/22 at DEQ station 2-FAC012.96, which is located at the Route 360 bridge. Chesterfield County also has a station at this location that shows DO problems, however their station is not approved for use in the assessment.

Falling Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>0.93</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G01R-05-BAC**      **Kingsland Creek**

Location: Kingsland Creek from its headwaters downstream to its mouth at the James River.

City / County: Chesterfield Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

During the 2006 cycle, Kingsland Creek was assessed as not supporting of the Recreation Use based on E. coli violations at the Route 1 bridge (2CKSL002.62). During the 2008 cycle, the violation rate was 4/11.

Kingsland Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>8.34</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G01R-05-PH**      **Kingsland Creek**

Location: Kingsland Creek from its headwaters downstream to its mouth at the James River.

City / County: Chesterfield Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 5C

During the 2006 cycle, Kingsland Creek was assessed as not supporting the Aquatic Life Use based on pH violations at the Route 1 bridge (2CKSL002.62). The violation rate was 3/11 in the 2008 cycle.

Kingsland Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
pH - Total Impaired Size by Water Type:			<b>8.34</b>

### Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G01R-06-BAC**      **Gillies Creek**

Location: Gillies Creek from its headwaters to its mouth at the James River.

City / County: Henrico Co.      Richmond City

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

Gillies Creek was initially assessed as not supporting of the Recreation Use in 2004 based on monitoring at the Government Road Bridge (2-GIL001.00, which was previously called 2-GIL000.42). During the 2008 cycle, the impairment converted to E. coli based on the following violation rates:

- 2-GIL001.00 - 7/18
- 2-GIL000.42 - 5/12 (Williamsburg Road)
- 2-GIL001.77 - 6/12 (Jennie Scher Road)
- 2-GIL002.84 - 2/12 (Old Masonic Home Lane)

Gillies Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>5.75</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G01R-06-PH**      **Gillies Creek**

Location: Gillies Creek from its headwaters to its mouth at the James River.

City / County: Henrico Co.      Richmond City

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 5A

Gillies Creek was initially assessed as not supporting the Aquatic Life Use in 2004 based on elevated pH at the Government Road Bridge (2-GIL001.00, which was previously called 2-GIL000.42). During the 2008 cycle, the pH violation rate was 5/29 at 2-GIL001.00, although the other stations within the segment had acceptable pH violation rates.

Gillies Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
pH - Total Impaired Size by Water Type:			<b>5.75</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G01R-08-BAC**      **No Name Creek**

Location: UT to James River (a.k.a. No Name Creek) mainstem and tributaries

City / County: Chesterfield Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

The segment was assessed as not supporting the Recreation Use during the 2004 cycle based on the following fecal coliform violation rates:

- 2/2 at 2-XTC000.08
- 1/1 at 2-XUH000.01
- 2/2 at 2-XUI000.01

Additional monitoring was recommended. During the 2008 cycle, E. coli monitoring was conducted at station 2-XSZ001.58, which is located at the Route 1 bridge. The station had an E.coli violation rate of 7/13, therefore the impairment was converted to E.coli.

No Name Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>2.07</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G01R-09-DO**      **UT to James River**

Location: Ditch to James River through National Battlefield Park

City / County: Chesterfield Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Oxygen, Dissolved / 5A

The ditch is considered impaired of the Aquatic Life use due to monitoring by the USGS:

DO 2/4 at 0203853010 (James River Trib 5 at West Boundary at Bellwood, VA  
DO 2/4 at 0203853030 (James River Trib 5 Below Landfill at Bellwood, VA)

The downstream station 020853050 (James River Trib 5 at East Boundary) was acceptable.

UT to James River	Estuary	Reservoir	River
<b>Aquatic Life</b>	(Sq. Miles)	(Acres)	(Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>0.39</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G01R-09-PH**      **UT to James River**

Location: Ditch to James River through National Battlefield Park

City / County: Chesterfield Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 5A

The ditch is considered impaired of the Aquatic Life use due to monitoring by the USGS:

pH 2/4 at 0203853010 (James River Trib 5 at West Boundary at Bellwood, VA)  
pH 2/4 at 0203853030 (James River Trib 5 Below Landfill at Bellwood, VA)

The downstream station 020853050 (James River Trib 5 at East Boundary) was acceptable.

UT to James River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
pH - Total Impaired Size by Water Type:			<b>0.39</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G01R-10-BAC**      **Pocoshock Creek**

Location: Pocoshock Creek from its headwaters to its mouth at Falling Creek Reservoir

City / County: Chesterfield Co.      Richmond City

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

During the 2006 cycle, the segment was considered impaired because of a fecal coliform violation rate of 2/12 at station 2-PSK000.23, which is located at a private road off Bemiss. Monitoring ceased in 2001, therefore additional monitoring was conducted in the 2008 cycle. The impairment converted to E. coli because of the following violation rates:

- 2-PSK000.23 - 3/12
- 2-PSK003.07 - 3/11
- 2-PSK006.53 - 3/12

Pocoshock Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>8.54</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G01R-11-BAC**      **Broad Rock Creek**

Location: Broad Rock Creek from its headwaters to its mouth at Goode Creek.

City / County: Richmond City

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

During the 2006 cycle, Broad Rock Creek was assessed as not supporting the Recreation Use based on E. coli violations at 2-BDO000.38 (Columbia Street). During the 2008 cycle, the segment remained impaired due to an E. coli violation rate of 2/11 at 2-BDO000.38 and a violation rate of 3/11 at new TMDL station 2-BDO000.46, which is located at Route 1.

Broad Rock Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>3.05</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G01R-12-DO**      **Coles Run, UT**

Location: The unnamed tributary XYI from its headwaters to its mouth

City / County: Henrico Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Oxygen, Dissolved / 5A

The segment is assessed as impaired of the Aquatic Life Use based on DO violations of 4/4 at USGS station 0203854210, which is located in the breastworks on the National Battlefield.

Coles Run, UT	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>1.13</b>

### Sources:

- Natural Conditions - Water  
Quality Standards Use  
Attainability Analyses  
Needed
- Source Unknown



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G01R-12-PH**      **Coles Run, UT**

Location: The unnamed tributary XYI from its headwaters to its mouth

City / County: Henrico Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 5A

The segment is assessed as impaired of the Aquatic Life Use based on pH violations of 4/4 at USGS station 0203854210, which is located in the breastworks on the National Battlefield.

Coles Run, UT	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
pH - Total Impaired Size by Water Type:			<b>1.13</b>

### Sources:

Natural Conditions - Water      Source Unknown  
Quality Standards Use  
Attainability Analyses  
Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G01R-13-BAC**      **Almond Creek, UT (XYA)**

Location: UT XYA from its headwaters to its mouth at Almond Creek.

City / County: Henrico Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

During the 2008 cycle, the segment was assessed as impaired of the Recreation Use due to an E. coli violation rate of 3/11 at TMDL station 2-XYA000.06, which is located at Bickerstaff Road.

Almond Creek, UT (XYA)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>1.11</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G01R-14-BAC**      **Cornelius Creek**

Location: The nontidal portion of Cornelius Creek.

City / County: Henrico Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

During the 2008 cycle, the segment was assessed as impaired of the Recreation Use due to an E. coli violation rate of 2/10 at TMDL station 2-CEL002.38, which is located at Old Osborne Turnpike.

Cornelius Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>6.69</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G01R-15-BAC**      **Proctors Creek**

Location: The nontidal mainstem of Proctors Creek.

City / County: Chesterfield Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

During the 2008 cycle, Proctors Creek was assessed as impaired of the Recreation Use due to an E. coli violation rate of 5/10 at the Route 2 bridge (2-PCT002.46).

Proctors Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>7.82</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G01R-16-BAC**      **Horners Run**

Location: The mainstem of Horners Run.

City / County: Chesterfield Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

During the 2008 cycle Horners Run was assessed as impaired of the Recreation Use due to an E. coli violation rate of 3/12 at the Lynchester Drive bridge (2-HAO001.15).

Horners Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>2.32</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G01R-17-BAC**      **Falling Creek, UT**

Location: Headwaters to mouth at Falling Creek

City / County: Chesterfield Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

During the 2008 cycle the tributary was assessed as impaired of the Recreation Use due to an E. coli violation rate of 4/12 at 2-XXN000.42, which is located at Route 678, Providence Road West.

Falling Creek, UT	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>2.34</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G01R-18-BAC**      **Licking Creek**

Location: Headwaters to mouth at Falling Creek

City / County: Chesterfield Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

During the 2008 cycle the tributary was assessed as impaired of the Recreation Use due to an E. coli violation rate of 6/11 at 2-LIB000.12, which is located at Barkbridge Road.

Licking Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>3.80</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G01R-19-BAC**      **Stony Run**

Location: Headwaters to mouth at Gillies Creek

City / County: Henrico Co.      Richmond City

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

During the 2008 cycle, Stony Run was assessed as impaired of the Recreation Use due to an E. coli violation rate of 6/12 at East Richmond Road (2-SNH000.19) and 4/12 at the Route 33 bridge (2-SNH001.31).

Stony Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>3.02</b>

Sources:

Source Unknown



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G02E-02-CHLA**      **James River**

Location: The mainstem of the James River within the Lower Tidal Freshwater Estuary.

City / County: Charles City Co.      Chesterfield Co.      Hopewell City      Prince George Co.      Surry Co.

Use(s): Aquatic Life      Open-Water Aquatic Life

Cause(s) /

VA Category: Chlorophyll-a / 5A

The James River from the Appomattox River to the Chickahominy River was originally listed on the 1998 list as fully supporting but threatened of the Aquatic Life Use goal based on chlorophyll a violations. During the 1998 cycle, EPA extended the segment upstream to the fall line and downgraded the river to not supporting the Aquatic Life Use, citing nutrient concerns.

In previous cycles, the mainstem James River had acceptable dissolved oxygen levels. In addition the entire tidal freshwater portion (fall line to just above the Chickahominy River) has good benthic community based on the results from the Chesapeake Bay Benthic Index of Biological Community; therefore the James River from the fall line to the oligohaline boundary was considered impaired solely for Nutrients/Eutrophication Biological Indicators (EPA Overlist).

A special site-specific chlorophyll standard for the mainstem James River was adopted during the 2008 cycle. The lower tidal freshwater segment exceeded both the spring and summer seasonal means.

James River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Chlorophyll-a - Total Impaired Size by Water Type:	<b>26.085</b>		
James River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Open-Water Aquatic Life</b>			
Chlorophyll-a - Total Impaired Size by Water Type:	<b>26.085</b>		

### Sources:

Industrial Point Source  
Discharge

Municipal Point Source  
Discharges

Non-Point Source

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G02R-01-BAC**      **Fourmile Creek**

Location: Fourmile Creek watershed from its headwaters to the mouth at the James River.

City / County: Henrico Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 4A

The segment was assessed as not supporting of the Recreation use support goal based on an E. coli standard violation rate of 5/22 at the Route 5 bridge (2-FOM003.60). The segment was initially considered threatened in 1998 and downgraded to impaired in 2002 due to fecal coliform violations; the TMDL was due in 2014. The bacteria standard has now converted to E. coli. The bacteria TMDL for the Fourmile Creek watershed was completed and approved by EPA on 9/20/2004. The segment is assessed as Cat. 4A.

Fourmile Creek	Estuary	Reservoir	River
<b>Recreation</b>	(Sq. Miles)	(Acres)	(Miles)
Escherichia coli - Total Impaired Size by Water Type:			<b>29.84</b>

Sources:

Non-Point Source      Urban Runoff/Storm Sewers

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G02R-01-PH**      **Fourmile Creek**

Location: Fourmile Creek watershed from its headwaters to the mouth at the James River.

City / County: Henrico Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 4C

Fourmile Creek and its tributaries were assessed as not supporting of the Aquatic Life use support goal based on pH standard violations recorded at stations 2-FOM003.60, 2-FOM001.85, 2-DLK001.19, 2-DLK001.84, 2-BAY000.42, 2-BAY002.42, 2-XPZ000.02 (1994), 2-FOM006.87, 2-FOM005.49, 2-SWE000.88, 2-SWE001.50, 2-XTU000.96, 2-XTV001.69, 2-XTW001.19, and 2-XTX000.65. The segment was initially listed in 1998; the TMDL was due in 2010. The segment was extended during the 2002 cycle due to pH violations at the special study stations in the watershed.

The "Natural Conditions Assessment for low pH, Fourmile Creek, Henrico County, Virginia" report was completed during the 2006 cycle and recommends that Fourmile Creek and its tributaries be reclassified as Class VII swampwaters. Until the reclassification, the segment will be assessed as Cat. 4C for pH.

Fourmile Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			29.84

### Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G02R-02-DO**      **Roundabout Creek**

Location: Mainstem of Roundabout Creek from the pond at approximately river mile 2.04 downstream to the mouth.

City / County: Henrico Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Oxygen, Dissolved / 5C

During the 2006 cycle, Roundabout Creek was assessed as impaired of the Aquatic Life Use due to a dissolved oxygen violation rate of 3/15 at station 2-ROT001.15, which is located at WRVA Road. The DO TMDL is due in 2018.

No new data was collected in the 2008 cycle.

Roundabout Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>2.06</b>

### Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G02R-02-PH**      **Roundabout Creek**

Location: Mainstem of Roundabout Creek from the pond at approximately river mile 2.04 downstream to the mouth.

City / County: Henrico Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 5C

Roundabout Creek was initially assessed as not supporting the Aquatic Life Use goals in 2004 based on pH violations at station 2-ROT001.15, which is located at WRVA Road. During the 2006 cycle, the segment remained impaired for pH with a violation rate of 4/28. The pH TMDL is due in 2016.

No new data was collected in the 2008 cycle.

Roundabout Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
pH - Total Impaired Size by Water Type:			<b>2.06</b>

Sources:

Natural Conditions - Water  
Quality Standards Use  
Attainability Analyses  
Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G02R-03-DO**      **Johnson Creek Watershed**

Location: Johnson Creek and tributaries from its headwaters to the mouth at the James River

City / County: Chesterfield Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Oxygen, Dissolved / 5C

Johnson Creek was initially assessed as not supporting the Aquatic Life Use goal during the 2004 cycle based on dissolved oxygen violations at Route 827 Allied Road (2-JOD001.19). The violation rate was 3/23 in the 2008 cycle.

The segment was extended during 2006 based on monitoring by Chesterfield County.

Johnson Creek Watershed	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>14.02</b>

Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G02R-03-PH**      **Johnson Creek Watershed**

Location: Johnson Creek and tributaries from its headwaters to the mouth at the James River

City / County: Chesterfield Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 5C

Johnson Creek was initially assessed as not supporting the Aquatic Life Use goal during the 2004 cycle based on pH violations at Route 827 Allied Road (2-JOD001.19). During the 2008 cycle, the violation rate was 11/23.

The segment was extended during 2006 based on monitoring by Chesterfield County.

Johnson Creek Watershed	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
pH - Total Impaired Size by Water Type:			<b>14.02</b>

Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G02R-04-DO**      **Western Run**

Location: Western Run from its headwaters to its mouth at the confluence with Turkey Island Creek

City / County: Henrico Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Oxygen, Dissolved / 5C

During the 2008 cycle, Western Run was assessed as not supporting of the Aquatic Life Use based on a dissolved oxygen violation rate of 4/15 at DEQ station 2-WSN000.85, which is located at Route 156.

Western Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>3.02</b>

### Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G02R-04-PH**      **Western Run**

Location: Western Run from its headwaters to its mouth at the confluence with Turkey Island Creek

City / County: Henrico Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 5C

Western Run was initially assessed as not supporting the Aquatic Life use goals based on pH violation rates of 2/4 (impaired) at USGS station 0203874275 (Route 156 near Elko, VA) and 1/4 (insufficient) at USGS station 0203874250 (McDowell Creek Tributary near NPS North Boundary near Elko, VA). Although DEQ station 2-WSN0000.85 is collocated with 0203874275 and the pH violation rate was 1/15 during the 2008 cycle, the combined data set is 3/19, therefore the segment will remain impaired.

Western Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
pH - Total Impaired Size by Water Type:			<b>3.02</b>

### Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G02R-05-BAC**      **Crewes Channel**

Location: Crewes Channel from its headwaters to its mouth at Turkey Island Creek.

City / County: Henrico Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

During the 2008 cycle, Crewes Channel was assessed as not supporting the Recreation Use due to an E. coli violation rate of 2/16 at DEQ station 2-CCH000.54, which is located at the Route 5 bridge. Further monitoring is recommended.

Crewes Channel	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>3.29</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G02R-05-PH**      **Crewes Channel**

Location: Crewes Channel from its headwaters to its mouth at Turkey Island Creek.

City / County: Henrico Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 5C

Crewes Channel was assessed as not supporting the Aquatic Life Use goal based on pH violation rates of 4/4 and 3/4 at USGS stations 0203874770 (logging road) and 0203874785 (Rt. 156 bridge), respectively. However, monitoring at DEQ station 2-CCH000.54, located at the Route 5 bridge, had an acceptable pH violation rate (0/15), therefore further monitoring in the segment is warranted to determine the extent of the impairment.

Crewes Channel	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
pH - Total Impaired Size by Water Type:			<b>3.29</b>

### Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G02R-06-DO**      **Upper Fourmile Creek**

Location: Fourmile Creek watershed from its headwaters to rivermile 5.57.

City / County: Henrico Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Oxygen, Dissolved / 5C

During the 2006 cycle, the upstream portion of the Fourmile Creek watershed was considered impaired due to dissolved oxygen violation rates of 4/15 at 2-FOM006.87 (Darbytown Road) and 2/12 at 2-XTV001.69 (Strath Road). In the 2008 cycle, the violation rate at 2-FOM006.87 was 4/16.

Upper Fourmile Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>5.88</b>

Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G02R-07-BAC**      **Western Run**

Location: Western Run from its headwaters to its mouth at the confluence with Turkey Island Creek

City / County: Henrico Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

Western Run was initially assessed as not supporting the Recreation use goals in the 2006 cycle based on bacteria sampling at the Route 156 bridge:

Fecal coliform violation rate of 2/3 at USGS station 0203874275  
E. coli violation rate of 2/4 at DEQ station 2-WSN000.85

During the 2008 cycle, the bacteria impairment converted solely to E. coli based on an E. coli violation rate of 6/16 at 2-WSN000.85.

Western Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>3.02</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G02R-08-DO** Turkey Island Creek

Location: Turkey Island Creek from its headwaters to the tidal limit.

City / County: Charles City Co. Henrico Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Oxygen, Dissolved / 5C

During the 2008 cycle, Turkey Island Creek was assessed as not supporting of the Aquatic Life Use due to a dissolved oxygen violation rate of 3/9 at Carters Mill Road (2-TIC002.69.)

Turkey Island Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>10.32</b>

### Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G03E-01-BAC**      **Bailey Creek (tidal), Cattail Creek (tidal)**

Location: Segment begins at Bailey Creek fall line and extends downstream to its mouth at the confluence with the James River. The segment includes the tidal portion of Cattail Creek.

City / County: Hopewell City      Prince George Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

The segment was initially listed as impaired of the Recreation Use on the 1994 cycle 303(d) list because of excessive violations of the fecal coliform standards.

For the 2008 303(d) list, the segment continues to be assessed as not supporting of the Recreation Use goal based on an E. coli violation rate of 4/37 at 2-BLY00.65. The TMDL is due in 2010.

Bailey Creek (tidal), Cattail Creek (tidal)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:	0.120		

Sources:

Industrial Point Source Discharge	Municipal Point Source Discharges	Non-Point Source	Source Unknown
--------------------------------------	--------------------------------------	------------------	----------------

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G03E-01-PH**      **Bailey Creek (tidal), Cattail Creek (tidal)**

Location: Segment begins at Bailey Creek fall line and extends downstream to its mouth at the confluence with the James River. The segment includes the tidal portion of Cattail Creek.

City / County: Hopewell City      Prince George Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 5A

The segment was initially considered impaired for pH on the 2004 303(d) list due to pH violations at the Hopewell Region Monitoring and Assessment Project (HERMA) stations. During the 2008 cycle, the pH violation rate at 2-BLY000.65 was 0/50, however the segment will remain listed based on the downstream HERMA stations.

Bailey Creek (tidal), Cattail Creek (tidal)		Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>				
pH - Total Impaired Size by Water Type:		<b>0.120</b>		

Sources:

Industrial Point Source Discharge	Municipal Point Source Discharges	Source Unknown
--------------------------------------	--------------------------------------	----------------



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G03E-04-BAC** James River

Location: The mainstem tidal James River from the confluence of the Appomattox River downstream to Queens Creek.

City / County: Charles City Co. Hopewell City Prince George Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A

The James River from the Appomattox River downstream to Powells Creek was initially listed as fully supporting but threatened of the Recreation Use during the 1998 cycle and was downgraded to impaired in the 2002 cycle. In 2006, the segment was extended downstream to Queens Creek and E. coli was added as an impairing cause. The impairment converted solely to E. coli in 2008 based on the following violation rates:

8/29 at 2-JMS075.04

5/27 at 2-JMS074.44

4/30 at 2-JMS069.08

The TMDL is due in 2014.

James River

**Recreation**

Estuary  
(Sq. Miles)

Reservoir  
(Acres)

River  
(Miles)

Escherichia coli - Total Impaired Size by Water Type: **13.821**

### Sources:

Discharges from Municipal  
Separate Storm Sewer  
Systems (MS4)

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G03L-01-DO**      **Harrison Lake**

Location: Harrison Lake in its entirety.

City / County: Charles City Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Oxygen, Dissolved / 5A

In 2006 the lake is also considered impaired Cat. 5A because the dissolved oxygen violation rate was unacceptable in the epilimnion/nonstratified periods. This was primarily due to DO violations during the September 2004 monitoring when the lake was not stratified.

In 2008 cycle no additional monitoring was collected, the lake nutrient criteria was developed, lake Harrison does not have a true lacustrine zone. The regional biologist recommended that this lake should be removed from the table of lakes to which the nutrient criteria standards apply during the next triennial review.

Harrison Lake	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>60.26</b>

Sources:

Changes in Ordinary Stratification and Bottom Water Hypoxia/Anoxia	Source Unknown
--	----------------

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G03L-01-HG**      **Harrison Lake**

Location: Harrison Lake in its entirety.

City / County: Charles City Co.

Use(s): Fish Consumption

Cause(s) /

VA Category: Mercury in Fish Tissue / 5A

2-HEC006.22 (C)- 2005 fish tissue had As in 3 species as an observed effect and Hg in 4 species.

VDH Fish Consumption Advisory for kepone

The VDH issued a Fish Consumption Advisory for Harrison Lake on 7/20/2006. No more than 2 meals per month of Redear Sunfish, Largemouth Bass, Chain Pickerel, and Bowfin are recommended due to mercury in fish tissue.

Harrison Lake	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Fish Consumption</b>			
Mercury in Fish Tissue - Total Impaired Size by Water Type:		<b>60.26</b>	

Sources:

Atmospheric Deposition -      Source Unknown  
Toxics

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G03L-01-PH**      **Harrison Lake**

Location: Harrison Lake in its entirety.

City / County: Charles City Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 5A

In 2006 Harrison Lake was assessed as not supporting of the Aquatic Life Use based on a pH violation rate of 12/25 at 2-WER000.02.

In 2008 cycle no additional monitoring was collected, the lake nutrient criteria was developed, lake Harrison does not have a true lacustrine zone. The regional biologist recommended that this lake should be removed from the table of lakes to which the nutrient criteria standards apply during the next triennial review.

Harrison Lake	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
pH - Total Impaired Size by Water Type:			<b>60.26</b>

Sources:

Natural Conditions - Water  
Quality Standards Use  
Attainability Analyses  
Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G03R-01**

### Gunns Run Watershed

Location: Gunns Run and its tributaries from its headwaters to the head of tide at approximately rivermile 2.64.

City / County: Charles City Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Oxygen, Dissolved / 4C

pH / 4C

In 1998, the entire mainstem of Gunns Run was assessed not supporting of the Aquatic Life use support goal based on pH violations recorded at the Route 618 bridge (2-GUN004.00). The pH TMDL was due in 2010.

In the 2002 cycle, a pH and DO violation rate of 0/3 at 2-GUN002.58 between 1994 and 1997 was used to assess the lower reach as fully supporting. However, dissolved oxygen was also identified as an impairing cause. This TMDL was due in 2014.

During the 2008 cycle, Gunns Run and its tributaries from the head of tide at river mile 2.64 upstream to its headwaters was recommended for reclassification as Class VII swampwaters. Until the WQS can be revised the segment will be considered a Category 4C water. The segment was adjusted to correct the tidal extent and expanded to include the applicable tributaries.

Gunns Run Watershed

**Aquatic Life**

Estuary  
(Sq. Miles)

Reservoir  
(Acres)

River  
(Miles)

Oxygen, Dissolved - Total Impaired Size by Water Type:

**13.94**

Gunns Run Watershed

**Aquatic Life**

Estuary  
(Sq. Miles)

Reservoir  
(Acres)

River  
(Miles)

pH - Total Impaired Size by Water Type:

**13.94**

Sources:

Natural Conditions - Water

Quality Standards Use

Attainability Analyses

Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G03R-02-ALD**      **Bailey Creek**

Location: Segment begins at the headwaters of Bailey Creek and extends downstream to the fall line.

City / County: Hopewell City      Prince George Co.

Use(s): Fish Consumption

Cause(s) /  
VA Category: Aldrin / 5A

The non-tidal portion of Bailey Creek was assessed in the 2002 cycle as impaired of the Fish Consumption Use goal because of exceedances of the human health screening levels for aldrin in fish studies at station 2-BLY005.72 in 1997. The TMDL for aldrin is due in 2014.

Bailey Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Fish Consumption</b>			
Aldrin - Total Impaired Size by Water Type:			<b>6.05</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G03R-02-BAC**      **Bailey Creek**

Location: Segment begins at the headwaters of Bailey Creek and extends downstream to the fall line.

City / County: Hopewell City      Prince George Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

Bailey Creek was initially included on the 303(d) list in 1994 based on water quality monitoring performed at the Route 10 bridge (2-BLY000.65) and historical water quality problems in Bailey Bay. The causes of impairment were excessive DO and fecal coliform standard violations recorded at 2-BLY000.65.

A special study was performed in 1997 and 1998 to delineate the area of impact. Riverine Bailey Creek continued to show fecal coliform impairment.

During the 2008 cycle, the bacteria impairment converted to E. coli due to an E. coli violation rate of 5/12 at 2-BLY003.42 and 3/12 at 2-BLY005.73.

Bailey Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>6.05</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G03R-02-DO**      **Bailey Creek**

Location: Segment begins at the confluence with Manchester Run and extends downstream to the fall line.

City / County: Hopewell City      Prince George Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Oxygen, Dissolved / 5A

During the 2008 cycle, additional monitoring was conducted at 2-BLY003.42, which is located at the Route 156 bridge. The segment of Bailey Creek from Manchester Run to the fall line was assessed as impaired of the Aquatic Life Use due to a dissolved oxygen violation rate of 2/14. The DO TMDL is due in 2020.

Bailey Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>0.91</b>

Sources:

Source Unknown



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G03R-02-PCB**      **Bailey Creek**

Location: Segment begins at the headwaters of Bailey Creek and extends downstream to the fall line.

City / County: Hopewell City      Prince George Co.

Use(s): Fish Consumption

Cause(s) /  
VA Category: PCB in Fish Tissue / 5A

The non-tidal portion of Bailey Creek was assessed in the 2002 cycle as impaired of the Fish Consumption Use goal because of exceedances of the human health screening levels for PCBs in fish studies at station 2-BLY005.72 in 1997. The TMDL for PCBs in fish is due in 2014.

Bailey Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Fish Consumption</b>			
PCB in Fish Tissue - Total Impaired Size by Water Type:			<b>6.05</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G03R-04-PH**      **West Run**

Location: West Run from the confluence with East Run downstream to the backwater of Harrison Lake.

City / County: Charles City Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 5C

West Run was initially assessed as not supporting the Aquatic Life Use in 2004 based on pH violations at the Route 625 bridge (2-WER001.93.) During the 2006 cycle, the segment remained impaired (7/12). No additional data has been collected in the 2008 cycle.

West Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
pH - Total Impaired Size by Water Type:			<b>1.80</b>

### Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G03R-06-BEN**      **UT (XUD) to West Run**

Location: The unnamed tributary XUD in its entirety.

City / County: Charles City Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

During the 2008 cycle, the unnamed tributary to West Run was assessed in as not supporting the Aquatic Life Use based on an impaired benthic community at 2-XUD000.15, a freshwater probabilistic monitoring station.

UT (XUD) to West Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			<b>1.53</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G03R-06-PH**      **UT (XUD) to West Run**

Location: The unnamed tributary XUD in its entirety.

City / County: Charles City Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 5C

The unnamed tributary to West Run was assessed in 2006 as not supporting the Aquatic Life Use based on a pH violation rate of 2/2 at 2-XUD000.15, a freshwater probabilistic monitoring station.

UT (XUD) to West Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
pH - Total Impaired Size by Water Type:			<b>1.53</b>

### Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G03R-07-BAC**      **Walls Run**

Location: Walls Run from its headwaters to its mouth at Powells Creek.

City / County: Prince George Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

Walls Run was initially assessed as not supporting the Recreation Use in 2006 based on E. coli violations at 2-WLR000.42, which is located at the Route 10 bridge. During the 2008 cycle, additional monitoring was conducted and the segment remained impaired due to the following violation rates:

4/23 at 2-WRL000.42  
2/12 at 2-WRL002.19 (Route 635)  
6/12 at 2-WLP004.46 (Route 646)

Walls Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>5.77</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G03R-08-BAC**      **Cattail Creek**

Location: The nontidal portion of Cattail Creek.

City / County: Hopewell City

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

During the 2008 cycle, nontidal Cattail Creek was assessed as not supporting of the Recreation Use due to an E. coli violation rate of 5/12 at the Route 36 bridge (2-CTC001.42).

Cattail Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>1.96</b>

### Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G03R-09-BAC**      **Southerly Run**

Location: The mainstem of Southerly Run from its headwaters to its mouth at Bailey Creek.

City / County: Prince George Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

During the 2008 cycle, Southerly Run was assessed as not supporting of the Recreation Use based on an E. coli violation rate of 3/12 at TMDL station 2-SOU000.77, which is located at the Route 646 bridge.

Southerly Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>3.03</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G03R-10-BAC** Powell Creek, UT

Location: Headwaters to mouth at Powell Creek.

City / County: Prince George Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

During the 2008 cycle, the tributary was assessed as not supporting of the Recreation Use based on an E. coli violation rate of 3/12 at TMDL station 2-XXO000.38, which is located at the Route 666 bridge.

Powell Creek, UT	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			1.69

Sources:

Source Unknown



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G04E-01-CHLR**      **James River**

Location: The mainstem tidal James River from Brandon Point to the Chickahominy River.

City / County: Charles City Co.      James City Co.      Prince George Co.      Surry Co.

Use(s): Aquatic Life      Wildlife

Cause(s) /  
VA Category: Chloride / 5C

In the 2004 cycle, the James River from Brandon Point downstream to the Chickahominy River confluence was assessed as impaired of the Aquatic Life Use and Wildlife Uses due to chloride violations at 2-JMS050.57. The chloride TMDL is due in 2016. In the 2008 cycle, the segment remained impaired.

James River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Chloride - Total Impaired Size by Water Type:	<b>12.335</b>		
James River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Wildlife</b>			
Chloride - Total Impaired Size by Water Type:	<b>12.335</b>		

Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G04E-02-EBEN**      **James River**

Location: The mainstem tidal James River from the oligohaline boundary to the Chickahominy River.

City / County: Charles City Co.      James City Co.      Surry Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Estuarine Bioassessments / 5C

The oligohaline portion of the James River is impaired for benthics as determined by the Chesapeake Bay B-IBI study.

James River	Estuary	Reservoir	River
<b>Aquatic Life</b>	(Sq. Miles)	(Acres)	(Miles)
Estuarine Bioassessments - Total Impaired Size by Water Type:			<b>8.579</b>

### Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G04E-04-CHLA**      **James River**

Location: The mainstem of the James River within the Oligohaline Estuary.

City / County: Charles City Co.      Isle Of Wight Co.      James City Co.      Newport News City      Surry Co.  
Williamsburg City

Use(s): Aquatic Life      Open-Water Aquatic Life

Cause(s) /

VA Category: Chlorophyll-a / 5A

The James River from the Appomattox River to the Chickahominy River was originally listed on the 1998 list as fully supporting but threatened of the Aquatic Life Use goal based on chlorophyll a violations. During the 1998 cycle, EPA extended the segment upstream to the fall line and downgraded the river to not supporting the Aquatic Life Use, citing nutrient concerns.

A special site-specific chlorophyll standard for the mainstem James River was adopted during the 2008 cycle. The oligohaline segment exceeded the spring seasonal mean.

James River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Chlorophyll-a - Total Impaired Size by Water Type:	<b>46.539</b>		

James River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Open-Water Aquatic Life</b>			
Chlorophyll-a - Total Impaired Size by Water Type:	<b>46.539</b>		

Sources:

Industrial Point Source  
Discharge

Municipal Point Source  
Discharges

Non-Point Source

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G04R-01-BAC**      **Wards Creek**

Location: Wards Creek from the headwaters to its tidal limit.

City / County: Prince George Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

During the 2006 cycle, Wards Creek was assessed as not supporting of the Recreation use support goal based on an E. coli violations at monitoring station 2-WRD005.40, which is located at the Route 10 bridge. The violation rate was 4/21 during the 2008 cycle.

Wards Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>7.66</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G04R-02-BAC**      **Upper Chippokes Creek**

Location: Upper Chippokes Creek from the headwaters to its tidal limit.

City / County: Prince George Co.      Surry Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

During the 2008 cycle, Upper Chippokes Creek was assessed as not supporting of the Recreation use support goal based on an E. coli violation rate of 2/10 at monitoring station 2-UCK007.73, which is located at the Route 10 bridge.

Upper Chippokes Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>5.23</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G05R-01-BEN**

**Chickahominy River, UT - Unnamed Tributary**

Location: Segment consists of the unnamed tributary of the Chickahominy River to which the Tyson Plant discharges.

City / County: Hanover Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

pH / 4A

Biological monitoring of the receiving stream identified a moderately impaired benthic community downstream of the Tyson Plant (VPDES Permit No. VA0004031) discharge when compared to the benthic community immediately upstream of the discharge. This resulted in this segment being assessed as impaired of the Clean Water Act's Aquatic Life Use Support Goal for the 1994 305(b) report. Continued monitoring resulted in a similar assessment for the 1996, 1998, 2002, and 2004 reports.

The TMDL study for the watershed was completed during the 2006 cycle. Extensive biological and nutrient monitoring was conducted. The benthic impairment continued and a pH impairment was noted at stations 2-XDD000.32 and 2-XDD000.40. The past phosphorus screening value was exceeded at multiple stations. The chlorophyll A screening was exceeded at 2-XDD000.40 and 2-XDD000.32 as well.

The TMDL was approved by EPA on 8/05/2004 and by the SWCB on 3/15/05. The study attributed the benthic impairment to excess phosphorus and high pH. The allocation was 432.69 lbs/year of phosphorus, divided between Tysons Foods (409.35 lbs/yr) and nonpoint sources (23.34 lbs/year).

Chickahominy River, UT - Unnamed Tributary

**Aquatic Life**

Estuary  
(Sq. Miles)

Reservoir  
(Acres)

River  
(Miles)

Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:

**1.11**

Chickahominy River, UT - Unnamed Tributary

**Aquatic Life**

Estuary  
(Sq. Miles)

Reservoir  
(Acres)

River  
(Miles)

pH - Total Impaired Size by Water Type:

**1.72**

Sources:

Industrial Point Source  
Discharge

Non-Point Source

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G05R-01-DO** Chickahominy River, UT - Unnamed Tributary

Location: Segment consists of the unnamed tributary of the Chickahominy River to which the Tyson Plant discharges.

City / County: Hanover Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Oxygen, Dissolved / 5A

The segment was assessed as not supporting of the Aquatic Life Use for dissolved oxygen due to a violation rate of 2/2 at 2-XDD000.64, 2-XDD000.65, and 2-XDD000.69.

Chickahominy River, UT - Unnamed Tributary	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			1.11

Sources:

Industrial Point Source  
Discharge

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G05R-01-NH3** Chickahominy River, UT - Unnamed Tributary

Location: Segment consists of the unnamed tributary of the Chickahominy River to which the Tyson Plant discharges.

City / County: Hanover Co.

Use(s): Aquatic Life Wildlife

Cause(s) /  
VA Category: Ammonia (Un-ionized) / 5A

Multiple exceedances of the chronic ammonia criteria had been noted in grab samples throughout the stream, therefore a special study was conducted in July 2005 to investigate the ammonia levels in the stream. Based on the results of the study, the segment is now impaired for ammonia because of 7 acute ammonia exceedances at 2-XDD000.86 and 6 acute ammonia exceedances at 2-XDD000.91. A fish kill was noted in the pond.

Chickahominy River, UT - Unnamed Tributary	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Wildlife			
Ammonia (Un-ionized) - Total Impaired Size by Water Type:			2.22

Sources:  
Industrial Point Source  
Discharge



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G05R-01-TEMP** Chickahominy River, UT - Unnamed Tributary

Location: Segment consists of the unnamed tributary of the Chickahominy River to which the Tyson Plant discharges.

City / County: Hanover Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Temperature, water / 5A

The segment was listed for temperature due to a violation rate of 7/54 at 2-XDD000.91 and 9/68 at 2-XDD000.40.

Chickahominy River, UT - Unnamed Tributary	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Temperature, water - Total Impaired Size by Water Type:			1.11

Sources:

Industrial Point Source  
Discharge

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G05R-02-BAC**      **Upham Brook Watershed**

Location: Segment begins at the headwaters of Upham Brook and extends downstream to the confluence with the Chickahominy River, including all tributaries.

City / County: Henrico Co.      Richmond City

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

Upham Brook was assessed in 2004 as not supporting of the Swimming Use support goal based on an E.coli violation rate of 4/14 at DEQ's Ambient Monitoring Station 2-UPM003.53, located at the Brook Road (Rt. 1) bridge over Upham Brook, as well as excessive fecal coliform violation rates at the Richmond Regional PDC special study stations.

The segment was extended in the year 2002 cycle to include the entire watershed. The original TMDL due date was maintained.

During the 2006 cycle, the bacteria impairment was converted to E. coli based on widespread violations in the watershed. The segment remained impaired during the 2008 cycle.

Upham Brook Watershed	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>48.38</b>

Sources:

Non-Point Source

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G05R-05-BAC**      **Stony Run**

Location: Stony Run from the confluence with Lickinghole Creek downstream to its mouth at the Chickahominy River.

City / County: Hanover Co.

Use(s): Recreation

Cause(s) /  
VA Category: Fecal Coliform / 5A

The segment was initially assessed as impaired of the Recreation Use in 2004 because of fecal coliform violations at the Route 656 bridge (2-SNF000.04). During the 2006 cycle, the violation rate was 2/12. There has been no E. coli monitoring at the site, therefore the fecal coliform impairment is carried over in the 2008 cycle.

Stony Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Fecal Coliform - Total Impaired Size by Water Type:			<b>0.21</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G05R-06-BEN**      **Grassy Swamp Creek**

Location: Grassy Swamp Creek from the pond at rivermile 0.99 to its mouth.

City / County: Hanover Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

During the 2008 cycle, Grassy Swamp Creek was assessed as not supporting of the Aquatic Life Use due to impairment of the benthic community at 2-GRC000.96.

Grassy Swamp Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			<b>0.98</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G05R-06-DO**      **Grassy Swamp Creek**

Location: Grassy Swamp Creek from the pond at rivermile 0.99 to its mouth.

City / County: Hanover Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Oxygen, Dissolved / 5C

Grassy Swamp Creek was assessed as impaired of the Aquatic Life Use in the 2008 cycle due to a dissolved oxygen violation rate of 10/72 at 2-GRC000.96, which is located at the Route 660 bridge.

Grassy Swamp Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>0.98</b>

### Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G05R-06-PH**      **Grassy Swamp Creek**

Location: Grassy Swamp Creek from the pond at rivermile 0.99 to its mouth.

City / County: Hanover Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 5C

Grassy Swamp Creek was assessed as impaired of the Aquatic Life Use in the 2006 cycle due to pH violations at 2-GRC000.96, which is located at the Route 660 bridge.

The segment remained impaired during the 2008 cycle with a violation rate of 12/72.

Grassy Swamp Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
pH - Total Impaired Size by Water Type:			<b>0.98</b>

### Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G05R-07-DO** Chickahominy River, UT (XDD)

Location: The unnamed tributary XDD from its headwaters to the Tysons Foods discharge.

City / County: Hanover Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Oxygen, Dissolved / 5A

The pH impairment in the segment was determined during the TMDL study for the lower portion of XDD. That TMDL incorporates this segment for pH (see VAP-G05R-01), however the DO impairment was new to the 2006 cycle. The DO impairment is suspected to be caused by low flow conditions exacerbated by the excess phosphorus in the watershed. The segment had a DO violation rate of 24/55 at 2-XDD001.23 during the 2008 cycle.

Chickahominy River, UT (XDD)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			0.61

Sources:

Natural Conditions - Water      Non-Point Source  
Quality Standards Use  
Attainability Analyses  
Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G05R-08-DO**      **Upham Brook**

Location: Upham Brook from its headwaters to the extent of backwater of Shaaf Pond in Cheswick Park.

City / County: Henrico Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Oxygen, Dissolved / 5A

The segment was initially assessed as not supporting the Aquatic Life Use in the 2006 cycle based on dissolved oxygen violations at 2-UPM011.11, located in Cheswick Park. During the 2008 cycle, the violation rate was 4/27.

Upham Brook	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>0.65</b>

Sources:

Source Unknown



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G05R-09-BEN**      **North Run**

Location: North Run from its headwaters to the confluence with Hungary Creek.

City / County: Henrico Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

North Run from its headwaters to the confluence with Hungary Creek was assessed as not supporting the Aquatic Life Use during the 2008 cycle based on an impaired benthic community at freshwater probabilistic monitoring station 2-NTR005.53, located above Mountain Road.

North Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			<b>3.53</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G05R-09-PH**      **North Run**

Location: North Run from its headwaters to the confluence with Hungary Creek.

City / County: Henrico Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 5A

North Run from its headwaters to the confluence with Hungary Creek was assessed as not supporting the Aquatic Life Use during the 2006 cycle based on a pH violation rate of 3/6 at station 2-NTR005.53, located above Mountain Road.

North Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
pH - Total Impaired Size by Water Type:			<b>3.53</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G05R-10-DO**      **Upham Brook**

Location: Upham Brook from Flippen Creek downstream to the confluence with the UT entering above Wilkinson Road

City / County: Henrico Co.      Richmond City

Use(s): Aquatic Life

Cause(s) /  
VA Category: Oxygen, Dissolved / 5A

The segment was assessed as not supporting the Aquatic Life Use in the 2008 cycle based on a dissolved oxygen violation rate of 2/12 at Route 301 (2-UPM002.41).

Upham Brook	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>1.13</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G05R-11-DO**      Upham Brook, UT (XXP)

Location: The unnamed tributary XXP from its headwaters to its mouth at Upham Brook.

City / County: Henrico Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Oxygen, Dissolved / 5A

During the 2008 cycle, the tributary was assessed as not supporting of the Aquatic Life Use based on a dissolved oxygen violation rate of 3/12 at TMDL station 2-XXP000.23.

Upham Brook, UT (XXP)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			1.02

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G06R-01-DO** Chickahominy River

Location: Segment begins at the Route 360 bridge over the Chickahominy River, and extends downstream to the Route 156 bridge.

City / County: Hanover Co. Henrico Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Oxygen, Dissolved / 4C

The Chickahominy River has been assessed as not supporting of the Aquatic Life use goal since 1996 due to dissolved oxygen violations at the Route 360 bridge (2-CHK062.57) and at the Route 156 bridge (2-CHK055.04).

During the 2008 cycle, the DO violation rates were 10/37 at 2-CHK062.57 and 5/28 at 2-CHK055.04; however, a Natural Conditions Assessment for DO in the Chickahominy River was conducted. The report recommends that the Chickahominy River from its confluence with Toe Ink Swamp at rivermile 43.07 upstream to the confluence with Stony Run at rivermile 71.03 be reclassified as Class VII swampwater. Until the WQS can be revised, the segment will be considered Category 4C for DO.

Chickahominy River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			7.50

Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G06R-03-BAC**      **White Oak Swamp**

Location: White Oak Swamp from White Oak Swamp Creek downstream to its mouth at the Chickahominy River.

City / County: Henrico Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 4A

The segment was assessed not supporting of the Recreation use support goal based on a E. coli standard violation rate of 6/12 recorded at 2-WOS002.69. The segment had previously been considered impaired for fecal coliform; during the 2006 cycle, the standard converted to E. coli. The Bacteria TMDL for White Oak Swamp was completed and approved by EPA on 9/20/2004. White Oak is considered a Cat. 4A water for bacteria.

White Oak Swamp	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>6.52</b>

Sources:

- Discharges from Municipal  
Separate Storm Sewer  
Systems (MS4)
- Non-Point Source

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G06R-03-PH**      **White Oak Swamp**

Location: White Oak Swamp from White Oak Swamp Creek downstream to its mouth at the Chickahominy River.

City / County: Henrico Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 4C

White Oak Swamp is assessed not supporting of the Aquatic Life use support goal based on pH standard violations recorded at the Route 156 bridge (2-WOS002.69) and at the Poplar Springs Road bridge (2-WOS006.57). During the 2006 cycle, the Natural Conditions Assessment for low pH in White Oak Swamp was completed and recommends that White Oak Swamp and its tributaries be reclassified as Class VII swampwaters. Until the standards can be revised, the watershed will be considered Cat. 4C for pH.

White Oak Swamp	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
pH - Total Impaired Size by Water Type:			<b>6.52</b>

Sources:

Natural Conditions - Water  
Quality Standards Use  
Attainability Analyses  
Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G06R-05-PH** Canal Swamp

Location: Canal Swamp from its headwaters to its mouth at White Oak Swamp.

City / County: Henrico Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 4C

Canal Swamp was initially assessed as not supporting of the Aquatic Life Use in 2002 based on pH standard violations at USGS station 02042454 and DEQ station 2-CNS000.54 (Portugee Road). During the 2006 cycle, the segment remained impaired with a violation rate of 13/15 at 2-CNS000.54. However, the Natural Conditions Assessment for White Oak Swamp was completed and recommends that White Oak Swamp and its tributaries be reclassified as Class VII swampwaters. Until the standards can be revised, the watershed will be considered Cat. 4C for pH.

Canal Swamp	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			2.93

Sources:

Natural Conditions - Water  
Quality Standards Use  
Attainability Analyses  
Needed



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G06R-06-PH** Beaverdam Creek

Location: Beaverdam Creek from its headwaters to its mouth.

City / County: Hanover Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 5C

Beaverdam Creek is assessed as not supporting of the Aquatic Life Use based on a pH standard violation rate of 3/4 at USGS station 02042433.

During the 2008 cycle, monitoring at DEQ's station at the Route 156 bridge, only slightly upstream of the USGS station, had an acceptable violation rate of 0/11.

Beaverdam Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			6.60

Sources:

Natural Conditions - Water  
Quality Standards Use  
Attainability Analyses  
Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G06R-07-PH**      **Boatswain Creek**

Location: Boatswain Creek from its headwaters to its mouth at the Chickahominy River.

City / County: Hanover Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 5C

Boatswain Creek is assessed as not supporting of the Aquatic Life Use based on a pH standard violation rate of 3/4 at USGS station 0204243830, 2/4 at USGS station 02043790, and 7/15 at DEQ station 2-BTS002.62.

Boatswain Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
pH - Total Impaired Size by Water Type:			<b>3.40</b>

### Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G06R-08-DO**      **White Oak Swamp**

Location: White Oak Swamp from its headwaters to the confluence with White Oak Swamp Creek.

City / County: Henrico Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Oxygen, Dissolved / 5C

During the 2006 cycle, the segment was considered impaired of the Aquatic Life Use due to a dissolved oxygen violation rate of 6/15 at 2-WOS008.15. Although natural conditions are also suspected, the "Natural Conditions Assessment for low pH in White Oak Swamp" report only addressed pH, therefore the segment will be classified as Category 5C. The TMDL is due in 2018.

White Oak Swamp	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>3.47</b>

Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G06R-08-PH**      **White Oak Swamp**

Location: White Oak Swamp from its headwaters to the confluence with White Oak Swamp Creek.

City / County: Henrico Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 4C

White Oak Swamp was assessed as not supporting of the Aquatic Life Use in 2004 based on pH standard violations at DEQ station 2-WOS008.15, which is located at northbound I-295. During the 2006 cycle, the segment remained impaired with a violation rate of 7/15. Other stations in the segment had acceptable violation rates.

The "Natural Conditions Assessment for low pH in White Oak Swamp" was completed during the 2006 cycle and recommends that White Oak Swamp and its tributaries be reclassified as Class VII swampwaters. Until the standards can be revised, the watershed will be considered Cat. 4C for pH.

White Oak Swamp	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
pH - Total Impaired Size by Water Type:			<b>3.47</b>

Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G06R-09-DO**      **White Oak Swamp Creek**

Location: White Oak Swamp Creek from its headwaters to the its mouth at White Oak Swamp.

City / County: Henrico Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Oxygen, Dissolved / 5C

During the 2006 cycle, White Oak Swamp Creek was considered impaired of the Aquatic Life Use due to a dissolved oxygen violation rate of 2/15 at 2-WSC002.62. Although natural conditions are also suspected, the "Natural Conditions Assessment for low pH in White Oak Swamp" report only addressed pH, therefore the segment will be classified as Category 5C. The TMDL is due in 2018.

White Oak Swamp Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>3.91</b>

Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G06R-09-PH**      **White Oak Swamp Creek**

Location: White Oak Swamp Creek from its headwaters to the its mouth at White Oak Swamp.

City / County: Henrico Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 4C

White Oak Swamp Creek was assessed in 2004 as not supporting of the Aquatic Life Use based on a pH standard violation rate of 3/3 at 2-WSC002.00 and 2-WSC002.62, located at northbound I-295 and Beulah Road, respectively. These are TMDL stations to address the pH impairment further downstream. During the 2006 cycle, the stream remained impaired with a violation rate of 15/15 at both stations. However, the "Natural Conditions Assessment for low pH in White Oak Swamp" was completed and recommends that White Oak Swamp and its tributaries be reclassified as Class VII swampwaters. Until the standards can be revised, the watershed will be considered Cat. 4C for pH.

White Oak Swamp Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			3.91

Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G06R-10-DO**      **Deep Run**

Location: Deep Run from its headwaters to the its mouth at White Oak Swamp.

City / County: Henrico Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Oxygen, Dissolved / 5C

During the 2006 cycle, Deep Run was considered impaired of the Aquatic Life Use due to a dissolved oxygen violation rate of 2/15 at 2-DER000.65. Although natural conditions are also suspected, the Natural Conditions Assessment for White Oak Swamp only addressed pH, therefore the segment will be classified as Category 5C. The TMDL is due in 2018.

Deep Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>2.33</b>

Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G06R-10-PH**      **Deep Run**

Location: Deep Run from its headwaters to the its mouth at White Oak Swamp.

City / County: Henrico Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 4C

Deep Run is assessed as not supporting of the Aquatic Life Use based on a pH standard violation rate of 15/15 at station 2-  
DER000.65, located at Charles City Road. This is a TMDL station to address the pH impairment in White Oak Swamp. The  
Natural Conditions Assessment for White Oak Swamp was completed and recommends that White Oak Swamp and its  
tributaries be reclassified as Class VII swampwaters. Until the standards can be revised, the watershed will be considered Cat.  
4C for pH.

Deep Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
pH - Total Impaired Size by Water Type:			<b>2.33</b>

Sources:

Natural Conditions - Water  
Quality Standards Use  
Attainability Analyses  
Needed



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G06R-11-DO**      **Bloody Run**

Location: Bloody Run from its headwaters to the its mouth at Gaines Mill Pond.

City / County: Hanover Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Oxygen, Dissolved / 5C

Bloody Run was assessed as not supporting of the Aquatic Life Use during the 2004 cycle based on a dissolved oxygen violation rate of 3/3 at USGS station 0204243610.

Bloody Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>1.05</b>

### Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G06R-11-PH**      **Bloody Run**

Location: Bloody Run from its headwaters to the its mouth at Gaines Mill Pond.

City / County: Hanover Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 5C

Bloody Run was assessed as not supporting of the Aquatic Life Use during the 2004 cycle based on pH violation rates of 4/4 at USGS stations 0204243610 and 0204243650.

Bloody Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
pH - Total Impaired Size by Water Type:			<b>1.05</b>

### Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G06R-12-BAC** Beaverdam Creek

Location: Beaverdam Creek from its headwaters to its mouth.

City / County: Hanover Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

Beaverdam Creek was initially assessed as not supporting the Recreation Use in the 2006 cycle based on E. coli violations at DEQ's station at the Route 156 bridge (2-BEV002.00.) During the 2008 cycle, the violation rate was 3/11.

Beaverdam Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			6.60

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G06R-13-BAC**      **Boatswain Creek**

Location: Boatswain Creek from its headwaters to its mouth at the Chickahominy River.

City / County: Hanover Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

Boatswain Creek was assessed as not supporting of the Recreation Use based on an E. coli violation rate of 5/16 at 2-BTS002.62, located at the Watt House driveway.

Boatswain Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>3.40</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G06R-14-BAC** Chickahominy River

Location: Segment begins at the Route 360 bridge over the Chickahominy River, and extends downstream to the Route 156 bridge.

City / County: Hanover Co. Henrico Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

During the 2008 cycle, the E. coli violation rate at 2-CHK062.57 (Route 60) was 4/20, therefore the segment is considered not supporting of the Recreation Use. The TMDL is due in 2020.

Chickahominy River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			7.50

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G06R-14-PH**      **Possum Run**

Location: Possum Run from its headwaters to its mouth at the Chickahominy River.

City / County: Charles City Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 5C

During the 2008 cycle, Possum Run was assessed as impaired of the Aquatic Life Use due to a pH violation rate of 2/3 at 2-POS002.62, which is a freshwater probabilistic monitoring station.

Possum Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
pH - Total Impaired Size by Water Type:			<b>4.56</b>

### Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G07L-01-HG** Chickahominy Lake

Location: Chickahominy Lake in its entirety.

City / County: Charles City Co. New Kent Co.

Use(s): Fish Consumption

Cause(s) /

VA Category: Mercury in Fish Tissue / 5A

The VDH issued a Fish Consumption Advisory for Chickahominy Lake on 7/20/2006. No more than 2 meals per month of Largemouth Bass, Chain Pickerel, and Bowfin are recommended due to mercury in fish tissue.

Chickahominy Lake	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Fish Consumption</b>			
Mercury in Fish Tissue - Total Impaired Size by Water Type:		<b>1,049.46</b>	

Sources:

Atmospheric Deposition - Source Unknown  
Toxics

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G07R-01-BAC**      **Collins Run**

Location: Collins Run from its headwaters to approximately river mile 0.99.

City / County: Charles City Co.

Use(s): Recreation

Cause(s) /  
VA Category: Fecal Coliform / 5A

The segment was assessed as not supporting of the Recreation Use in 2002 because of fecal coliform violations at two confined animal feeding operation special study locations, 2-CNR001.16 and 2-CNR001.54 (Route 614 bridge).

There has been no additional monitoring since 2002, therefore the previous assessment is carried over to 2006.

Collins Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Fecal Coliform - Total Impaired Size by Water Type:			<b>4.36</b>

Sources:

Source Unknown



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G07R-01-PH**      **Collins Run**

Location: Collins Run from its headwaters to approximately river mile 0.99.

City / County: Charles City Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 5A

The segment was assessed as not supporting of the Aquatic Life Use in 2002 because of pH violations at two confined animal feeding operation special study locations, 2-CNR001.16 and 2-CNR001.54 (Route 614 bridge).

There has been no additional monitoring since 2002, therefore the previous assessment is carried over to 2006.

Collins Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
pH - Total Impaired Size by Water Type:			<b>4.36</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G07R-02-DO**      **Rumley Marsh**

Location: Rumley Marsh from tits headwaters to Old Forge Pond. Below Old Forge Pond, the stream name is Jones Run.

City / County: New Kent Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Oxygen, Dissolved / 5C

Special studies conducted in Rumley Marsh and Jones Run in 1994 identified summertime DO violations in Rumley Marsh at station 2-RUM002.46.

The segment was threatened in 1998 and downgraded in 2002. During the 2008 cycle, additional monitoring was conducted at 2-RUM004.38, which is located at the Route 617 bridge. The monitoring confirmed the impairment with a DO violation rate of 3/9.

Rumley Marsh	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			5.77

Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G07R-04-BAC**      **Collins Run**

Location: Collins Run from approximately river mile 0.99 downstream to its mouth.

City / County: Charles City Co.

Use(s): Recreation

Cause(s) /  
VA Category: Fecal Coliform / 5A

The segment was assessed not supporting of the Recreation Use because of fecal coliform violations at 2-CNR000.89.

This station is part of a confined animal feeding operation special study.

Collins Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Fecal Coliform - Total Impaired Size by Water Type:			<b>0.99</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G08E-02-CHLR**      Chickahominy River

Location: The segment begins at Diascund Creek and extends downstream to the mouth at the James River

City / County: Charles City Co.      James City Co.

Use(s): Aquatic Life      Wildlife

Cause(s) /  
VA Category: Chloride / 5C

The Chickahominy River was assessed as not supporting the Aquatic Life and Wildlife Uses during the 2004 cycle because of chloride violations at 2-CHK002.17, 2-CHK006.14, and 2-CHK0014.33.

Chickahominy River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Chloride - Total Impaired Size by Water Type:	<b>5.916</b>		
Chickahominy River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Wildlife</b>			
Chloride - Total Impaired Size by Water Type:	<b>5.916</b>		

- Sources:
- Natural Conditions - Water
  - Quality Standards Use
  - Attainability Analyses
  - Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G08E-04-BAC** Chickahominy River

Location: The segment begins at Diascund Creek and extends downstream to the mouth at the James River

City / County: Charles City Co. James City Co.

Use(s): Recreation

Cause(s) /  
VA Category: Enterococcus / 5A

The segment was assessed as not supporting the Recreation Use due to an enterococci violations at 2-CHK002.17. During the 2008 cycle, the violation rate was 2/17. The source of the violations is unknown. Continued monitoring is recommended to increase the data set and confirm the impairment since the fecal coliform violation rates within the segment are acceptable.

Chickahominy River	Estuary	Reservoir	River
Recreation	(Sq. Miles)	(Acres)	(Miles)
Enterococcus - Total Impaired Size by Water Type:			5.916

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G08E-05-EBEN**      **Gordon Creek**

Location: Tidal portion of Gordon Creek

City / County: James City Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Estuarine Bioassessments / 5A

Station 2-GOR002.58 is a Coastal 2000 probabilistic monitoring station. Weight of Evidence assessment performed by DEQ's Central Office indicates benthic alteration caused by water quality problems.

Gordon Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Estuarine Bioassessments - Total Impaired Size by Water Type:			
	<b>0.296</b>		

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G08E-06-BAC** Chickahominy River

Location: The tidal mainstem Chickahominy River from Walkers Dam downstream to the confluence with Diascund Creek.

City / County: Charles City Co. James City Co. New Kent Co.

Use(s): Recreation

Cause(s) /  
VA Category: Enterococcus / 5A

The Chickahominy River from Walkers Dam downstream to the confluence with Diascund Creek was assessed as not supporting the Recreation Use in the 2008 cycle due to an enterococci violation rate of 2/12 at 2-CHK023.64.

Chickahominy River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Enterococcus - Total Impaired Size by Water Type:			<b>1.369</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G08L-01-DO**      **Little Creek Reservoir**

Location: This cause encompasses the entire reservoir. Located Northeast of the Chickahominy River and southwest of Toano. James City County PWS.

City / County: James City Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Oxygen, Dissolved / 5A

The Aquatic Life Use impairment is due to dissolved oxygen concentration measurements pooled at (77 violates/ 237 obs. = 32.5%). The three individual exceedances are (39 violates / 102 obs. @ 2-LTL001.60; 0 violates / 35 obs. @ 2-LTL001.20, 38 violates / 100 obs. @ 2-LTL002.46) below the minimum criteria (4.0 mg/L) reported from observations at the DEQ (Lake) monitoring stations sampled during the current assessment cycle. pH data is supporting for all three lake monitoring stations.

Little Creek Reservoir	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>925.72</b>

Sources:

Source Unknown



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G08R-01** Morris Creek

Location: Morris Creek from its headwaters downstream to the tidal limit at river mile 5.97.

City / County: Charles City Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Oxygen, Dissolved / 4C pH / 4C

Morris Creek was assessed as not supporting of the Aquatic Life use support (ALUS) goal based on water quality monitoring performed at the Route 623 bridge (2-MOC005.97). The segment was initially listed in 1998, therefore the DO and pH TMDLs were due in 2010.

During the 2008 cycle, additional monitoring was conducted. The impairments were confirmed with the following violation rates:

DO 11/22, pH 3/24 at 2-MOC005.97  
DO 6/10, pH 3/10 at 2-MOC010.97

However, a Natural Conditions Assessment recommends that Morris Creek and its tributaries from the head of tide at river mile 5.97 upstream to its headwaters be reclassified as Class VII swampwaters. Until the WQS can be revised, Morris Creek will be considered a Category 4C water for dissolved oxygen and pH.

Morris Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			7.73
Morris Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			7.73

Sources:  
Natural Conditions - Water  
Quality Standards Use  
Attainability Analyses  
Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G08R-01-BAC**      **Morris Creek**

Location: Morris Creek from its headwaters downstream to the tidal limit at river mile 5.97.

City / County: Charles City Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

Morris Creek was assessed in 2004 as not supporting of the Recreation use support goal based on a fecal coliform violation rate of 3/20 recorded at 2-MOC005.97. The segment was listed as threatened in 1998, and then downgraded to impaired during the 2002 cycle, therefore the TMDL should be due in 2014. However, EPA mistakenly included it as impaired on the 1998 Consent Decree. Although this is an error, DEQ will complete the TMDL by 2010.

During the 2008 cycle, additional E. coli monitoring was conducted at stations 2-MOC005.97 and 2-MOC010.97. Although the upstream E. coli violation rate was acceptable (1/12), the segment remains impaired due to a violation rate of 4/17 at 2-MOC005.97. The impairment converted to E. coli, however the original TMDL due date is maintained.

Morris Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>7.73</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G08R-02-BAC**      **Mill Creek**

Location: Mill Creek from its headwaters downstream to its tidal limit

City / County: James City Co.

Use(s): Recreation

Cause(s) /  
VA Category: Fecal Coliform / 5A

Mill Creek was initially assessed as not supporting of the Recreation use support goal in 2004 based on a fecal coliform violation rate of 3/13 recorded at 2-MCR002.38. No E. coli monitoring has been performed, therefore the fecal coliform impairment is carried over. Additional monitoring is recommended.

Mill Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Fecal Coliform - Total Impaired Size by Water Type:			<b>4.69</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G08R-02-DO**      **Mill Creek**

Location: Mill Creek from its headwaters downstream to its tidal limit

City / County: James City Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Oxygen, Dissolved / 5C

Mill Creek was initially assessed as not supporting of the Aquatic Life use support (ALUS) goal in 2004 based on DO violations at the Route 603 bridge (2-MCR002.38). During the 2008 cycle, the segment remained impaired for DO with a violation rate of 3/23.

Mill Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>4.69</b>

### Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G09R-01-BAC** Beaverdam Creek

Location: All of Beaverdam Creek tributary to Diascund Reservoir.

City / County: New Kent Co.

Use(s): Recreation

Cause(s) /  
VA Category: Fecal Coliform / 5A

In the 2004 cycle, the segment was assessed as not supporting the Recreation Use goal based on a fecal coliform violation rate of 3/19 at 2-BDM004.12. The fecal coliform TMDL is due in 2016. There has been no additional monitoring since 2001, therefore the segment remains impaired.

Beaverdam Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Fecal Coliform - Total Impaired Size by Water Type:			<b>4.08</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G09R-01-DO** Beaverdam Creek

Location: All of Beaverdam Creek tributary to Diascund Reservoir.

City / County: New Kent Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Oxygen, Dissolved / 5A

Beaverdam Creek was assessed as not supporting of the Aquatic Life use because of dissolved oxygen standard violations at the Route 632 bridge (2-BDM004.12). The segment was initially considered fully supporting but threatened in the 1998 cycle, but was downgraded to impaired in the 2002 cycle. The DO TMDL is due in 2014.

Beaverdam Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			4.08

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G09R-02-BAC**      **Diascund Creek**

Location: All of Diascund Creek from its headwaters to the Diascund Reservoir.

City / County: New Kent Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

During the 2008 cycle, Diascund Creek was assessed as not supporting of the Recreation Use due to an E. coli violation rate of 4/24 at the Route 628 bridge (2-DSC012.67). The TMDL is due in 2020.

Diascund Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>6.88</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G09R-02-DO**      **Diascund Creek**

Location: All of Diascund Creek from its headwaters to the Diascund Reservoir.

City / County: New Kent Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Oxygen, Dissolved / 5C

During the 2008 cycle, Diascund Creek was assessed as not supporting of the Aquatic Life Use due to a dissolved oxygen violation rate of 4/25 at the Route 628 bridge (2-DSC012.68).

Diascund Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>6.88</b>

### Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G10E-01-BAC** Powhatan Creek/Sandy Bay and Mill Creek

Location: This cause encompasses Powhatan Creek/Sandy Bay, from end of tidal waters downstream to the mouth of Sandy Bay and Mill Creek, from the end of tidal waters downstream to the mouth. Located North of Jamestown Island area, tributary to the Thorofare embayment. CBP segment JMSOH. DSS (ADMIN) shellfish condemn # 060-069 A (effective 20061229).

City / County: James City Co.

Use(s): Recreation

Cause(s) /  
VA Category: Enterococcus / 5A

The Recreation Use is impaired based on Enterococcus bacteria data from stations 2-MIC000.03 ( 14 viol. / 26 obs.).  
TMDL due date is 2010. TMDL ID = VAT-G10E-03. Related to Entero impairment in adjacent Powhatan Cr. (G10E-01-BAC).  
1999 CD segment for FC (Attachment B) VAT-G10E-03.

Powhatan Creek/Sandy Bay and Mill Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Enterococcus - Total Impaired Size by Water Type:	<b>0.276</b>		

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G10E-04-CHLA**      **James River Mainstem**

Location: This cause encompasses the James River Mainstem, from the end of CPB segment JMSMH downstream to the mouth (confluence with the Chesapeake Bay)

City / County: Hampton City      Isle Of Wight Co.      James City Co.      Newport News City      Norfolk City  
Portsmouth City      Suffolk City      Surry Co.

Use(s): Aquatic Life      Open-Water Aquatic Life

Cause(s) /

VA Category: Chlorophyll-a / 5A

The Aquatic Life and Open-Water Uses are impaired based on failure to meet the revised Chesapeake Bay water criteria for Plankton, as measured using Chlorophyll-a concentrations. The impairment is added for the 2008 IR cycle. As the impairment is related to the EPA's 1998 303(d) Overlisting as impaired of the Aquatic Life Use; the impairment was attributed to excessive nutrients, the TMDL is due in 2010. 1998 CD segment for nutrients (Attachment A, Category 1, Part 2) VAT-G10E-04. Previous Use ID = VAT-G10E-04.

James River Mainstem

**Aquatic Life**

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Chlorophyll-a - Total Impaired Size by Water Type:	<b>123.373</b>		

James River Mainstem

**Open-Water Aquatic Life**

	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Chlorophyll-a - Total Impaired Size by Water Type:	<b>123.373</b>		

Sources:

Industrial Point Source  
Discharge

Municipal Point Source  
Discharges

Non-Point Source

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G10E-05-EBEN**      **James River Mainstem - Chickahominy R. to Hog Point**

Location: This cause encompasses the James River Mainstem, from the confluence with Chickahominy R. (coincident with the watershed G10 line, at approximately RM 48.40) downstream to line between Hog Pt. and mouth College Creek on the north shore of the James River. CBP segment JMSOH. DSS (ADMIN) shellfish condemn # 060-069 A (effective 20061229).

City / County: Isle Of Wight Co.      James City Co.      Newport News City      Surry Co.      Williamsburg City

Use(s): Aquatic Life

Cause(s) /  
VA Category: Estuarine Bioassessments / 5A

The Aquatic Life Use is impaired based on failure to meet a statistical evaluation constituting an un-impacted benthic organism population per CBP (Benthic-BIBI) analysis. The source/stressor tool yielded an unknown source for the impairment. Also listed impaired in 2004 IR based on CBP-BIBI probabilistic estuarine benthic assessment. This segment was previously included (2004 IR) in TMDL ID: VAT-G10E-05.  
The TMDL due date is carried from the previous 2004 IR impairment identification date.

James River Mainstem - Chickahominy R. to Hog Point	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Estuarine Bioassessments - Total Impaired Size by Water Type:	37.960		

Sources:  
Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G10E-06-BAC** College Creek

Location: This cause encompasses College Creek, from the end of tidal waters downstream to mouth (confluence with James River). North shore tributary to James River, located NE of Jamestown Isl. And west of Kingsmill area, in James City Co. CBP segment JMSOH. DSS (ADMIN) shellfish condemn # 060-069 A (effective 20061229).

City / County: James City Co. Williamsburg City

Use(s): Recreation

Cause(s) /  
VA Category: Enterococcus / 5A

The Recreation Use is impaired based on Enterococcus bacteria data from stations 2-CLG000.23 ( 4 viol. / 26 obs.).  
TMDL due date is 2018. TMDL ID = VAT-G10E-06.

College Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Enterococcus - Total Impaired Size by Water Type:			<b>0.568</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G10E-08-CHLR**      **James River Mainstem - Chickahominy R. to Hog Point**

Location: This cause encompasses the James River Mainstem, from the confluence with Chickahominy R. (coincident with watershed G10 line at approximately RM 48.40) downstream to line between Hog Pt. and mouth College Cr. N shore James R. CBP segment JMSOH. DSS (ADMIN) shellfish condemn # 060-069 A (effective 20061229).

City / County: Isle Of Wight Co.      James City Co.      Newport News City      Surry Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Chloride / 5C

The Aquatic Life Use impairment includes chloride exceedance of acute criteria (freshwater criteria apply since classified Tidal Freshwater) at DEQ stations 2-JMS042.92 & 2-JMS032.59. The cause of the chloride standard exceedance is attributed to naturally occurring conditions of saline water intrusion from downstream estuarine waters. The TMDL is due in 2020.

James River Mainstem - Chickahominy R. to Hog Point	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Chloride - Total Impaired Size by Water Type:	<b>29.699</b>		

Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G10R-01-BAC**      **College Run**

Location: This cause encompasses College Run, from the convergence of the two upstream branches downstream to the confluence with the James River at Cobham Bay. Located north of Chippokes Plantation State Park, tributary to Cobham Bay (Surry County, PRO station).

City / County: Surry Co.

Use(s): Recreation

Cause(s) /  
VA Category: Fecal Coliform / 5A

The Recreation Use is impaired due to exceedance of the criteria for Fecal Coliform bacteria ( 2 violates / 8 obs.).

College Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Fecal Coliform - Total Impaired Size by Water Type:			<b>2.39</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G10R-02-BEN** Powhatan Creek

Location: This cause encompasses Powhatan Creek, from the confluence with Long Hill Swamp and Chisel Run downstream to the beginning of tidal waters. Located west of the Five Forks area. North of Jamestown Island, north shore tributary to the James R.

City / County: James City Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use impairment is retained from previous IR cycles, assessment is based on the stream's benthic population as measured by DEQ's Benthic-Macroinvertebrate Bioassessments program at station 2-POW006.77. Benthic data assessment (Spring - 2000 and Fall - 2000) resulted in a moderate impairment rating for this station.

Powhatan Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			<b>5.35</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G11E-01-BAC**      **Warwick River - Middle Tidal Portion**

Location: This cause encompasses the Warwick River - Middle Tidal Portion, from approximately Denbigh Landing area downstream to Denbigh Park area. Located in Menchville area of Newport News. CBP segment JMSMH. Portion of DSS (ADMINISTRATIVE) shellfish direct harvesting condemnation # 058-034 A (1993-10-01).

City / County: Newport News City

Use(s): Recreation

Cause(s) /  
VA Category: Enterococcus / 5A

The Recreation Use is not supported based on Enterococci data collected at Station 2-WWK003.98 with 6 violates/ 24 obs. Recreation Use in 2006 was supported.

Warwick River - Middle Tidal Portion	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Enterococcus - Total Impaired Size by Water Type:	<b>0.075</b>		

Sources:

Source Unknown



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G11E-03-BAC**      **Deep Creek - Lower**

Location: This cause encompasses Deep Creek - Lower (tributary to Warwick River - Lower Tidal Portion), from Warwick Yacht Club downstream to mouth. CBP segment JMSMH. Portion of DSS (ADMINISTRATIVE) shellfish direct harvesting condemnation # 058-034 A (1993-10-01).

City / County: Newport News City

Use(s): Recreation

Cause(s) /  
VA Category: Enterococcus / 5A

The Recreation Use is not supported based on the exceedance rate of 12 % for Station 2-DEP000.26 with 3 violate / 25 obs. for the instantaneous criteria for Enterococci bacteria. This station was impaired for the previous 2006 Assessment for Enterococci (2 viol / 13 obs) (VAT-G11E-03).

Deep Creek - Lower	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Enterococcus - Total Impaired Size by Water Type:	<b>0.101</b>		

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

---

## James River Basin

Cause Group Code **G11E-04-BAC**

### Pagan River - Upstream of Chalmers Point

Location: This cause encompasses the Pagan River - Upstream of Chalmers Point, from widening North of Smithfield downstream to the RT 678 crossing. South shore tributary to James R. Located in Smithfield area. CBP segment JMSMH. Portion of DSS shellfish direct harvesting condemnation # 061-064 A (2005-11-22).

City / County: Isle Of Wight Co.

Use(s): Recreation

Cause(s) /

VA Category: Enterococcus / 5A

The Recreation Use is impaired at all of the associated monitoring stations due to exceedance of the instantaneous criteria for Enterococcus bacteria. The previous Fecal Coliform indicator bacteria impairment (VAT-G11E-05) no longer applies, replaced by Enterococcus criteria impairment since threshold of 12 observations reached, with TMDL ID and due date same as original FC impairment.

1998 CD segment for FC (Attachment A, Category 1, Part 1) VAT-G11E-04 & 1998 CD segment for FC & DO (Attachment A, Category 1, Part 1 & Attachment B) VAT-G11E-05.

---

Pagan River - Upstream of Chalmers Point

**Recreation**

Estuary  
(Sq. Miles)

Reservoir  
(Acres)

River  
(Miles)

Enterococcus - Total Impaired Size by Water Type:

**0.382**

---

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G11E-12-SF** Skiffes Creek System

Location: Described in VDH Notice and Description of Shellfish Condemnation # 059-023A (2005-12-05). Located west of Lee Hall area, flows along the James City Co./ Newport News City boundary. From dam downstream to mouth, including tidal tributaries.

City / County: James City Co. Newport News City

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 5B

The Shellfishing Use is impaired based on the DSS condemnation # 059-023.  
1998 CD segment for shellfish (Attachment A, Category 3) VAT-G11E-12.

Skiffes Creek System	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			
			0.566

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G11E-14-SF**      **Lawnes Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation # 060-206 A (2005-10-17). From end of tidal waters downstream to mouth. South shore tributary to James R. near Hog Island WMA. Hog Isl. Area, opposite Mulberry Point. CBP segment JMSMH.

City / County: Isle Of Wight Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 5B

The Shellfishing Use is impaired based on the DSS condemnation # 061- 064 A.  
1998 CD segment for shellfish (Attachment A, Category 3) VAT-G11E-14

Lawnes Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Shellfishing</b>			
Fecal Coliform - Total Impaired Size by Water Type:			
			<b>0.292</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G11E-16-SF**      **Pagan River, Cypress & Jones Creeks and Chuckatuck & Brewers Creeks**

Location: Described in VDH Notice and Description of Shellfish Condemnation # 061-064 A (2005-11-22).

City / County: Isle Of Wight Co.      Suffolk City

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 5B

The Shellfishing Use is impaired based on the DSS condemnation # 061-064 A (2005-11-22).  
1998 CD segment for shellfish (Attachment A, Category 3) VAT-G11E-10.

Pagan River, Cypress & Jones Creeks and Chuckatuck & Brewers Creeks	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Shellfishing</b>			
Fecal Coliform - Total Impaired Size by Water Type:	<b>4.050</b>		

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G11E-17-SF**      **Ballard Creek & Bay and Kings Creek & Bay**

Location: Described in VDH Notice and Description of Shellfish Condemnation # 062-164 A (effective 20060913).

City / County: Isle Of Wight Co.

Use(s): Shellfishing

Cause(s) /

VA Category: Fecal Coliform / 5B

The Shellfishing Use is impaired based on the DSS shellfish condemnation # 062-164 A (effective 20060913). TMDL ID = VAT-G11E-17.  
1998 CD segment for shellfish (Attachment A, Category 3) VAT-G11E-17.

Ballard Creek & Bay and Kings Creek & Bay	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	0.096		

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G11E-18-SF**      **Tylers Beach Boat Basin**

Location: Described in VDH Notice and Description of Shellfish Condemnation # 060-206 B (2005-10-17). From end of tidal waters downstream to mouth. Located in the Bailey Beach area. Adjacent to the James River. Opposite Mulberry Island. NW corner of Burwell Bay. CBP segment JMSMH.

City / County: Isle Of Wight Co.

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 5B

The Shellfishing Use is impaired based on the DSS shellfish condemnation # 060-206 B.  
1998 CD segment for shellfish (Attachment A, Category 3) VAT-G11E-18.

Tylers Beach Boat Basin	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:			
			0.003

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G11L-01-CU**      **Lee Hall Reservoir**

Location: This cause encompasses the entirety of Lee Hall Reservoir. Located southeast of Lee Hall area. Northeast of Fort Eustis.  
Lee Hall is split by I-64. Newport News PWS.

City / County: Newport News City

Use(s): Aquatic Life      Wildlife

Cause(s) /  
VA Category: Copper / 5A

The Aquatic Life and Wildlife Uses are impaired based on exceedance of the DEQ copper (acute) criteria as reported from a USGS 2002 special study. Cu exceedances include 0204279210 ( 4 violates), 0204279224 (1 violates), 0204279230 ( 4 violates) and 0204279240 (4 violates). Dissolved oxygen is impaired based on the pooled violation rate of 11.1 % (15 violates/ 135 obs).

Lee Hall Reservoir	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Wildlife</b>			
Copper - Total Impaired Size by Water Type:			<b>580.12</b>

Sources:

Municipal (Urbanized High      Source Unknown  
Density Area)



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G11L-01-DO**      **Lee Hall Reservoir**

Location: This cause encompasses the entirety of Lee Hall Reservoir. Located southeast of Lee Hall area. Northeast of Fort Eustis.  
Lee Hall is split by I-64. Newport News PWS.

City / County: Newport News City

Use(s): Aquatic Life

Cause(s) /

VA Category: Oxygen, Dissolved / 5A

The Aquatic Life Use is impaired based on dissolved oxygen concentrations below the minimum allowable instantaneous criteria. Dissolved oxygen is impaired based on the pooled violation rate of 11.1 % (15 violates/ 135 obs).

Individual exceedances for DO include 2-LHR000.96 ( 4 violates/ 35 obs), 2-LHR001.76 (2 violates/ 27 obs), 2-LHR002.56 (0 violates / 20 obs), 0204279210 (1 violates / 15 obs), 0204279220 (0 violates / 4 obs), 0204279224 ( 0 violates. 1 obs), 0204279230 ( 4 violates/ 18 obs), and 0204279240 (4 violates/ 15 obs).

Lee Hall Reservoir	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>290.06</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G11L-02-DO** Lone Star Lake G

Location: This cause encompasses the entirety of Lone Star Lake G. Upstream impounded portions of Chuckatuck Creek. Pond north and adjacent to Chuckatuck Creek. Water supply system composed of flooded borrow pits. Suffolk PWS component. Crane Lake.

City / County: Suffolk City

Use(s): Aquatic Life

Cause(s) /  
VA Category: Oxygen, Dissolved / 5A

The Aquatic Life Use is impaired based on dissolved oxygen concentrations below the DEQ minimum allowable instantaneous criteria. DO exceedance rate is 33.3 % (15 violates/ 45 obs).

DEQ monitoring station 2-LSL000.04 for Lone Star Lake G (Crane Lake)

Lone Star Lake G	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>89.61</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G11L-03-DO** Lone Star Lake I

Location: This cause encompasses the entirety of Lone Star Lake I. Upstream impounded portions of Chuckatuck Creek. Pond south and adjacent to Chuckatuck Creek. Water supply system composed of flooded borrow pits. Suffolk PWS component. Butler Lake.

City / County: Suffolk City

Use(s): Aquatic Life

Cause(s) /  
VA Category: Oxygen, Dissolved / 5A

The Aquatic Life Use is impaired based on dissolved oxygen concentrations below the DEQ minimum allowable instantaneous criteria. Station 2- LSL000.20 has a violation rate of 34.7 % (17 violates / 49 obs.).

Lone Star Lake I monitoring station 2-LSL000.20 ( Butler Lake).

Lone Star Lake I	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:		<b>33.08</b>	

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G11L-04-DO** Lone Star Lake F

Location: This cause encompasses the entirety of Lone Star Lake F. Upstream impounded portions of Chuckatuck Creek. Most southeast pond. Water supply system composed of flooded borrow pits. Suffolk PWS component. Crystal Lake.

City / County: Suffolk City

Use(s): Aquatic Life

Cause(s) /

VA Category: Oxygen, Dissolved / 5A

The Aquatic Life Use is impaired based on dissolved oxygen concentrations below the DEQ minimum allowable instantaneous criteria. DO exceedance rate is 26.2 % (11violates/ 42 obs)

Lone Star Lake F	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:		18.69	

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G11R-01-BAC**      **Baptist Run**

Location: This cause encompasses Baptist Run, this segment begins at outflow of pond upstream of station at Crawford Drive extending downstream to confluence with Great Run and Beaverdam Creek. Located south of Lackey.

City / County: York Co.

Use(s): Recreation

Cause(s) /  
VA Category: Fecal Coliform / 5A

The Recreational Use impairment is retained from 2006 Report. The Recreation Use is impaired ( 2 violates / 2 observations) based on exceedance of the DEQ Fecal Coliform bacteria instantaneous maximum criteria.

Baptist Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Fecal Coliform - Total Impaired Size by Water Type:			<b>3.05</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G11R-02-BEN**      **Chuckatuck Creek**

Location: This cause encompasses Chuckatuck Creek, from the confluence of unnamed tributary (downstream of Rt 600) downstream to confluence of unnamed tributary (downstream of Rt 602, below BIO station @ 2-CKT005.72).Riverine portion southwest of Longview.

City / County: Isle Of Wight Co.      Suffolk City

Use(s): Aquatic Life

Cause(s) /  
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use is impaired based on a moderately impaired rating for freshwater benthic bioassessment. DEQ Streams Benthic-Macroinvertebrate Bioassessments station @ 2-CKT005.72 (Benthic rating of moderate impairment recorded Spring 2000 and Fall 2000). This benthic impairment is retained from listing under previous IR reports.

Chuckatuck Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			<b>1.44</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G12L-01-DO**      **Lake Cahoon**

Location: This cause encompasses the entirety of Lake Cahoon. Southeast of Myrtle. West and upstream of Lake Meade, (portion of the headwater impoundment system of the Nansemond River). Portion of Portsmouth PWS system.

City / County: Suffolk City

Use(s): Aquatic Life

Cause(s) /

VA Category: Oxygen, Dissolved / 5A

The Aquatic Life Use is impaired based on dissolved oxygen concentrations below the DEQ minimum allowable instantaneous criteria. DEQ Monitoring Stations 2-LCN000.20, 2-LMD004.35, and 2-LMD005.55. Pooled DO data violation rate 60.6 % (40 violates/ 66 obs). Individual exceedances include 2-LCN000.20 (4 violates/ 14 obs) , 2-LMD004.35 (26 violates/ 46 obs) , and 2-LMD005.55 (10 violates/ 16 obs).

Lake Cahoon	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>454.16</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G12L-02-DO**      **Lake Meade**

Location: This cause encompasses the entirety of Lake Meade. Northwest of City of Suffolk. Headwater impoundments of Nansemond River. Downstream receptor of Lakes Cahoon & Kilby. Portion of Portsmouth PWS system.

City / County: Suffolk City

Use(s): Aquatic Life

Cause(s) /

VA Category: Oxygen, Dissolved / 5A

The Aquatic Life Use is impaired based on dissolved oxygen concentrations below the DEQ minimum allowable instantaneous criteria. Pooled DO data is impaired with a violation rate of 33.3 % (54 violates/ 162 obs). Individual station exceedances include 2-LMD000.02 ( 20 violates/ 46 obs) , 2-LMD000.20 (13 violates/ 34 obs), 2-LMD000.41 (4 violates/ 24 obs) , 2-LMD001.41 (10 violates/ 31 obs), and 2-LMD002.07 (7 violates/ 27 obs).

Lake Meade	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>489.61</b>

Sources:

Source Unknown



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G12L-03-DO**      **Speights Run Lake**

Location: This cause encompasses the entirety of Speights Run Lake. Northwest of Suffolk Municipal Airport. Southwest of Lake Kilby. Most southwest branch and upstream of Lake Kilby/Lake Meade system (headwater impoundments of Nansemond River). Portion of Portsmouth PWS system.

City / County: Suffolk City

Use(s): Aquatic Life

Cause(s) /  
VA Category: Oxygen, Dissolved / 5A

The Aquatic Life Use is impaired based on dissolved oxygen concentrations below the DEQ minimum allowable instantaneous criteria. Pooled DO violation rate is 55.6 % (30 violates/ 54 obs). Individual station exceedances include 2-SPE000.17 (14 violates/ 27 obs) and 2-SPE001.18 (16 violates/ 27 obs). Pooled pH data supports Aquatic Life Use.

Speights Run Lake	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>117.81</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G12L-04-DO**      **Lake Kilby**

Location: This cause encompasses the entirety of Lake Kilby. Northwest of Suffolk Municipal Airport. South of Pitchkettle Creek. Most southwest branch of Lake Kilby/Pitchkettle Creek/Lake Meade system (headwater impoundments of Nansemond River). Portion of Portsmouth PWS system.

City / County: Suffolk City

Use(s): Aquatic Life

Cause(s) /  
VA Category: Oxygen, Dissolved / 5A

The Aquatic Life Use is impaired based on dissolved oxygen concentrations below the DEQ minimum allowable instantaneous criteria. Pooled DO data violation rate is 77.8 % (56 violates/ 72 obs). Individual exceedances for stations 2-LKK000.80 ( 24 violates/ 35 obs) and 2-PKC001.84( 29 violates/ 37 obs). pH is supporting for aquatic life use.

Lake Kilby	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>200.03</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G12R-01-PH**      **Eley Swamp, tributary to Lake Cahoon**

Location: This cause encompasses Eley Swamp, tributary to Lake Cahoon. Segment extends 2.40 mi. upstream and 2.20 mi. downstream from Rt. 607 crossing. Portion of Portsmouth water supply reservoirs. Located northeast of Myrtle.

City / County: Suffolk City

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 4C

The Aquatic Life Use impairment, based on pH concentrations below the allowable DEQ minimum criteria (6.0 SU) from the 1998 303d listing is retained due to lack of more recent data. The impairment is believed caused by natural swamp water conditions of low flow velocity and high organic conditions with tannic acids present (these tannic acids may be the cause of the low pH excursions).

1998 CD segment for pH (Attachment A, Category 1, Part 2) VAT-G12R-01

Eley Swamp, tributary to Lake Cahoon	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
pH - Total Impaired Size by Water Type:			<b>4.68</b>

Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G13E-07-PH**      **Shingle Creek, Tributary to Nansemond R.**

Location: From end of tidal waters (0.2 mi upstream of Portsmouth Blvd) downstream to Nansemond R. Headwaters connect to canals (Jericho Ditch) in Dismal Swamp. NE of Suffolk, near Rt 642. CBP segment JMSMH.

City / County: Suffolk City

Use(s): Aquatic Life

Cause(s) /

VA Category: pH / 5A

The Aquatic Life Use is impaired (TMDL ID = VAT-G13E-07) based on a site specific failure to meet the minimum pH criteria.(4.0 SU) at station 2-SGL001.00 ( 4/37).

Shingle Creek, Tributary to Nansemond R.	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
pH - Total Impaired Size by Water Type:	<b>0.039</b>		

Sources:

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G13E-08-EBEN**      **Nansemond River Mainstem Estuarine Bioassessment Impairments**

Location: Downstream of Suffolk. From Rt 58/460 (RM 15.1) crossing downstream to confluence with the Western Branch Reservoir (RM 11.9). CBP segment JMSMH. Portion of DSS shellfish condemnation # 063-008 A (20060202).

City / County: Suffolk City

Use(s): Aquatic Life

Cause(s) /

VA Category: Estuarine Bioassessments / 5A

The Aquatic Life Use is impaired based on failure to meet a statistical evaluation constituting an un-impacted benthic organism population per CBP (Benthic-BIBI) analysis (VERSAR-2005). The source/stressor tool yielded sediment contaminants as the source for the impairment. Previously listed under TMDL ID: VAT-G13E-08.

The Cause Code ( G13E-08-EBEN ) relates to all Estuarine Bioassessment impairments within the CB-BIBI sub-segment JMSMHb (Nansemond River BIBI strata) which did not meet the criteria for the 2008 IR cycle.

Nansemond River Mainstem Estuarine Bioassessment Impairments		Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life				
Estuarine Bioassessments - Total Impaired Size by Water Type:		10.063		

Sources:

Contaminated Sediments

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G13E-12-BAC**      **Bennett Creek, Tributary to Nansemond River**

Location: This cause encompasses from the headwaters to the mouth, including tidal tributaries. Portion of CBP segment JMSMH.  
DSS shellfish direct harvesting condemnation # 063-046 A (20060202).

City / County: Suffolk City

Use(s): Recreation

Cause(s) /  
VA Category: Enterococcus / 5A

The Recreation Use is impaired ( 4 violate / 14 obs.) due to exceedance of the instantaneous criteria for Enterococcus bacteria. The previous Fecal Coliform indicator bacteria impairment no longer applies, replaced by Enterococcus criteria impairment since threshold of 12 observations reached, with TMDL ID (VAT-G13E-04) and due date (TMDL due date = 2016) same as original FC impairment.  
Cause code ( G13E-12-SF ) relates to shellfish Cause code in DSS # 063-046 A (20060202).

Bennett Creek, Tributary to Nansemond River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Enterococcus - Total Impaired Size by Water Type:	<b>0.467</b>		

Sources:  
Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G13E-12-SF**      **Bennett, Bleakhorn and Knotts Creek**

Location: Described in VDH Notice and Description of Shellfish Condemnation # 063-046 A (20060202).

City / County: Suffolk City

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 5B

The Shellfishing Use is impaired based on the DSS shellfish direct harvesting condemnation # 063-046 (20060202). TMDL ID = VAT-G13E-12.  
1998 CD segment for shellfish (Attachment A, Category 3) VAT-G13E-12.

Bennett, Bleakhorn and Knotts Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Shellfishing</b>			
Fecal Coliform - Total Impaired Size by Water Type:			
			<b>0.642</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G13E-13-BAC**

**Upper Nansemond River and Shingle Creek**

Location: This cause encompasses the Upper Nansemond River and tidal portion of Shingle Creek.

City / County: Suffolk City

Use(s): Recreation

Cause(s) /

VA Category: Enterococcus / 4A

The Recreation Use is impaired due to exceedance of the instantaneous criteria for Enterococcus bacteria, as recorded at the associated DEQ (AQM) monitoring station @ 2-NAN019.14 ( 15 violates / 34 observations). The previous Fecal Coliform indicator bacteria impairment (VAT-G13E-03) no longer applies, replaced by Enterococcus criteria impairment since threshold of 12 observations reached, with TMDL ID and due date same as original FC impairment. 1998 CD segment for FC (Attachment A, Category 1, Part 1) VAT-G13E-03.

The Cause Code ( G13E-13-SF ) relates to all Recreation impairments within shellfish condemnation DSS # 063-008 covered under the TMDL noted below.

The Recreation and Shellfish Uses are covered under TMDL " Fecal Bacteria Total Maximum Daily Load Development for the Nansemond River Primary Contact Recreational Use and Shellfish Harvesting Use", April 26, 2006, EPA approved 12/4/06

---

Upper Nansemond River and Shingle Creek

**Recreation**

Estuary  
(Sq. Miles)

Reservoir  
(Acres)

River  
(Miles)

Enterococcus - Total Impaired Size by Water Type: **0.301**

---

Sources:

Source Unknown



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G13E-13-SF**      **Nansemond River Mainstem, Western Branch, Shingle, Burnetts Mill, Star & Oyster House Creeks and Unsegmented Estuaries - Upper Nansemond River.**

Location: Described in VDH Notice and Description of Shellfish Condemnation # 063-008 A (20060202).

City / County: Suffolk City

Use(s): Shellfishing

Cause(s) /  
VA Category: Fecal Coliform / 4A

The Shellfishing Use is impaired based on the DSS shellfish direct harvesting condemnation present within this segment as portion of DSS shellfish condemnation # 063-008 A (20060202).  
1999 CD segment for shellfish (Attachment A, Category 3) VAT-G13E-13. The Cause Code ( G13E-13-SF ) relates to all shellfish condemnation within DSS # 063-008 covered under the TMDL noted below.

The Recreation and Shellfish Uses are covered under TMDL " Fecal Bacteria Total Maximum Daily Load Development for the Nansemond River Primary Contact Recreational Use and Shellfish Harvesting Use", April 26, 2006, EPA approved 12/4/06.

Nansemond River Mainstem, Western Branch, Shingle, Burnetts Mill, Star & Oyster House Creeks and Unsegmented Estuaries - Upper Nansemond River.	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Shellfishing			
Fecal Coliform - Total Impaired Size by Water Type:	5.842		

Sources:  
Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G14L-01-DO**      **Lake Burnt Mills**

Location: This cause encompasses the entirety of Lake Burnt Mills. West of Chuckatuck. Upper northwest portion of Western Branch Reservoir system. Upstream of Rt 603. Impounded headwaters tributary of the Nansemond River. Portion of Norfolk water supply reservoirs.

City / County: Isle Of Wight Co.      Norfolk City

Use(s): Aquatic Life

Cause(s) /  
VA Category: Oxygen, Dissolved / 5A

The Aquatic Life Use is impaired based on dissolved oxygen concentrations below the DEQ minimum allowable instantaneous criteria. Pooled DO exceedance rate 58.7 % (91 violates/ 155 obs). Individual station exceedances include 2-NWB007.04 (3 violates/ 24 obs), 2-NWB009.48 (32 violates/ 42 obs), 2-NWB010.54 (32 violates/ 42 obs), BM1 (19 violates/ 32 obs), and BM2 (15 violates/ 27 obs). Pooled pH for Lake Burnt Mills is supporting for aquatic life use.

Lake Burnt Mills	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>637.99</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G14L-02-DO**      **Western Branch Reservoir**

Location: This cause encompasses the entirety of Western Branch Reservoir. West of Chuckatuck. Impounded headwaters tributary of the Nansemond River. Portion of Norfolk water supply reservoirs.

City / County: Isle Of Wight Co.      Norfolk City

Use(s): Aquatic Life

Cause(s) /

VA Category: Oxygen, Dissolved / 5A

The Aquatic Life Use is impaired based on dissolved oxygen concentrations below the DEQ minimum allowable instantaneous criteria. Pooled DO violation rate is 13.1 % (34 violates/ 260 obs). Individual station exceedance are 2-NWB002.93 (0 violates/ 34 obs) , 2-NWB004.14 (4 violates/ 46 obs), 2-NWB004.67 (6 violates/ 45 obs), 2-NWB006.06 (9 violates/ 45 obs), WB1(5 violates/ 33 obs), WB2 (4 violates/ 32 obs), and WB4 (6 violates/ 25 obs).

Western Branch Reservoir	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:		<b>1,205.37</b>	

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G14L-03-DO**      **Lake Prince - Reservoir**

Location: This cause encompasses the entirety of Lake Prince Reservoir. Northwest of Suffolk, south of Town of Indika. Southwest branch of Western Branch Reservoir system. Upstream of Western Branch Reservoir. Portion of Norfolk water supply reservoirs.

City / County: Isle Of Wight Co.      Norfolk City      Suffolk City

Use(s): Aquatic Life

Cause(s) /  
VA Category: Oxygen, Dissolved / 5A

The Aquatic Life Use is impaired based on dissolved oxygen concentrations below the DEQ minimum allowable instantaneous criteria. Pooled DO exceedance rate is 30 % ( 72violates / 240 obs). Individual station exceedances include 2-LPR000.02 ( 0 violates/ 21 obs) , 2-LPR007.55 ( 6 violates/ 33 obs) , 2-NWB006.56 ( 17 violates/ 51 obs), EC1 (0 violates/ 1 obs), LG1( 0 violates/ 1 obs), LP1 (3 violates/ 12 obs) , LP2 ( 12 violates/ 21 obs), LP3 (23 violates/ 43 obs), LP4 ( 4 violates/ 16 obs), LP5 ( 5 violates/ 18 obs) , and WB3( 2 violates/ 24 obs).

Lake Prince - Reservoir	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>708.85</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G14R-01-BEN**      **Carbell Swamp - Upper**

Location: This cause encompasses the upper portion of Carbell Swamp. Upstream tributary to the northwest branch of Lake Prince (near Holly Grove Church). Entire watershed is portion of PWS for City of Norfolk.

City / County: Isle Of Wight Co.      Norfolk City

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The Aquatic Life Use is impaired based on moderately impaired rating for freshwater benthic bioassessment. DEQ Streams Benthic-Macroinvertebrate Bioassessment at DEQ (BIO) freshwater benthic bioassessment monitoring station @ 2-CRL004.04 (moderately impaired rating measured in fall 2001, spring 2002, fall 2002).

Carbell Swamp - Upper	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			<b>2.55</b>

Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G14R-01-PH**      **Carbell Swamp - Upper**

Location: This cause encompasses the upper portion of Carbell Swamp. Upstream tributary to the northwest branch of Lake Prince (near Holly Grove Church). Entire watershed is portion of PWS for City of Norfolk.

City / County: Isle Of Wight Co.      Norfolk City

Use(s): Aquatic Life

Cause(s) /

VA Category: pH / 5A

The Aquatic Life Use is impaired based on pH concentrations below the DEQ minimum criteria (6.0 SU). DEQ freshwater benthic bioassessment monitoring station @ 2-CRL004.04 ( 2 violates / 5 observations).

Carbell Swamp - Upper	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
pH - Total Impaired Size by Water Type:			<b>2.55</b>

Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G14R-02-DO**      **Carbell Swamp- Lower**

Location: This cause encompasses the lower portion of Carbell Swamp. Upstream tributary to the northwest branch of Lake Prince (near Holly Grove Church). Lower segment of swamp. Entire watershed is portion of PWS for City of Norfolk.

City / County: Isle Of Wight Co.      Norfolk City

Use(s): Aquatic Life

Cause(s) /

VA Category: Oxygen, Dissolved / 5A

The Aquatic Life Use is impaired based on DO concentrations below the DEQ minimum criteria ( 4 violates / 8 obs.) at station 2-CRL001.83.

Carbell Swamp- Lower	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>1.33</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G15E-01-01-EBEN** Elizabeth River Southern Branch, Paradise, Saint Julian, New Mill and Deep Creeks and Unsegmented estuaries in SBEMH

Location: This cause encompasses the entirety of the Southern Branch Elizabeth River, Paradise, Saint Julian, New Mill and Deep Creeks and Unsegmented estuaries in SBEMH. South of I-64 crossing. From headwaters @ Great Br Locks downstream to I-64 crossing @ Deep Cr. (RM 6.86). CBP segment SBEMH. BIBI segment SBEMHa.

City / County: Chesapeake City      Norfolk City      Portsmouth City

Use(s): Aquatic Life

Cause(s) /  
VA Category: Estuarine Bioassessments / 5A

The Aquatic Life Use is impaired based on failure to meet a statistical evaluation constituting an un-impacted benthic organism population per CBP (Benthic-BIBI) analysis. The source/stressor tool yielded an unknown source for the impairment. This segment was previously included (2004 IR) in TMDL ID: VAT-G15E-01-09.  
The TMDL due date is carried from the previous 2004 IR impairment identification date.  
Previous Use ID = VAT-G15E-01-09 for benthic impairment.

This Cause Code ( G15E-03-01-EBEN ) relates to all benthic impairments within the Elizabeth River system.

Elizabeth River Southern Branch, Paradise, Saint Julian, New Mill and Deep Creeks and Unsegmented estuaries in SBEMH	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Estuarine Bioassessments - Total Impaired Size by Water Type:	3.187		

Sources:  
Contaminated Sediments



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

---

## James River Basin

Cause Group Code **G15E-02-02-BAC**      **Elizabeth River Upper Mainstem, Eastern Branch, Broad Creek, Southern Branch and Paradise Creek Recreation Impairment**

Location: This cause encompasses the Elizabeth River Upper Mainstem, from start of mainstem downstream to line between Hospital Pt and Smiths Cr. (Incl. Hague). Eastern Branch and Broad Creek.

City / County: Chesapeake City      Norfolk City      Portsmouth City

Use(s): Recreation

Cause(s) /

VA Category: Enterococcus / 5A

The Recreation Use is impaired (3 violates / 28 observations) due to exceedance of the instantaneous criteria for Enterococcus bacteria. This segment is added for 2006 IR as TMDL ID: VAT-G15E-02-02, to the previously established TMDL ID (2004 IR) in the lower Eastern Br. Elizabeth R., as it is believed to be related.

The Cause Code ( G15E-02-02-BAC ) relates the bacteria impairments in the lower Eastern & Southern Branches (including Paradise Cr.) and upper mainstem Elizabeth River.

---

Elizabeth River Upper Mainstem, Eastern Branch, Broad Creek, Southern Branch and Paradise Creek Recreation Impairment	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Enterococcus - Total Impaired Size by Water Type:	<b>2.498</b>		

---

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G15E-02-04-EBEN**    **Eastern Branch Elizabeth River, Broad Creek and Unsegmented estuaries in EBEMH**

Location: This cause encompasses the entirety of the Eastern Branch Elizabeth River and Broad Creek. Located between Carolanne Farms and Tanglewood areas. Upper Eastern Br., from headwaters to confluence of Broad Creek (RM 4.0). CBP segment EBEMH. BIBI segment EBEMHa.

City / County: Chesapeake City      Norfolk City      Virginia Beach City

Use(s): Aquatic Life

Cause(s) /  
VA Category: Estuarine Bioassessments / 5A

The Aquatic Life Use is impaired based on failure to meet a statistical evaluation constituting an un-impacted benthic organism population per CBP (Benthic-BIBI) analysis. The source/stressor tool yielded an unknown source for the impairment. This segment was previously included (2004 IR) in TMDL ID: VAT-G15E-01-03.  
The TMDL due date is carried from the previous 2004 IR impairment identification date.

Eastern Branch Elizabeth River, Broad Creek and Unsegmented estuaries in EBEMH	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Estuarine Bioassessments - Total Impaired Size by Water Type:	2.374		

Sources:  
Contaminated Sediments

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G15E-02-05-BAC** Indian River, tributary of Eastern Branch, Elizabeth River

Location: This cause encompasses the entirety of the Indian River. Located southwest of Broad Creek. Between Campostella Heights and Tanglewood. Entirety of creek including tribs. CBP segment EBEMH.

City / County: Chesapeake City

Use(s): Recreation

Cause(s) /

VA Category: Enterococcus / 5A

The Recreation Use is impaired (13violates / 22 observations) due to exceedance of the instantaneous criteria for Enterococcus bacteria with TMDL ID and due date same as original FC impairment.

Indian River, tributary of Eastern Branch, Elizabeth River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Enterococcus - Total Impaired Size by Water Type:	<b>0.268</b>		

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G15E-03-01-EBEN** Elizabeth River Upper Mainstem

Location: This cause encompasses the entirety of the Elizabeth River Upper Mainstem. CBP segment SBEMH. BIBI segment ELIMHa.

City / County: Norfolk City Portsmouth City

Use(s): Aquatic Life

Cause(s) /

VA Category: Estuarine Bioassessments / 5A

The Aquatic Life Use is impaired based on failure to meet a statistical evaluation constituting an un-impacted benthic organism population per CBP (Benthic-BIBI) analysis. The source/stressor tool yielded an unknown source for the impairment. This segment was previously included (2004 IR) in TMDL ID: VAT-G15E-01-09.  
The TMDL due date is carried from the previous 2004 IR impairment identification date.  
Previous Use ID = VAT-G15E-01-09 for benthic impairment.

This Cause Code ( G15E-03-01-EBEN ) relates to all benthic impairments within the Elizabeth River system.

Elizabeth River Upper Mainstem	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Estuarine Bioassessments - Total Impaired Size by Water Type:	4.517		

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G15E-03-01-TBT**      **Elizabeth River System Tributyltin (TBT) Impairment**

Location: This cause encompasses the complete Elizabeth River mainstem, as well as the majority of the Eastern and Southern Branches and the lower portion of the Lafayette River (near confluence with Elizabeth River mainstem).

City / County: Chesapeake City      Norfolk City      Portsmouth City

Use(s): Aquatic Life

Cause(s) /

VA Category: Tributyltin TBT (Tributylstanne) / 5A

The Aquatic Life Use is also impaired based on failure to meet the DEQ tributyltin (TBT) salt water acute criteria as measured at the upstream station 2-ELI003.52. This segment was previously included (2006 IR) in TMDL ID: VAT-G15E-03-01.1999 CD segment for tributyltin (Attachment A, Category 1, Part 1) VAT-G15E.

Elizabeth River System Tributyltin (TBT) Impairment	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Tributyltin TBT (Tributylstanne) - Total Impaired Size by Water Type:	<b>11.201</b>		

Sources:

Contaminated Sediments	Industrial Point Source Discharge	Other Shipping Releases (Wastes and Detritus)	Shipbuilding, Repairs, Drydocking
------------------------	--------------------------------------	--	--------------------------------------

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G15E-04-01-BAC**      **Western Branch, Elizabeth River Recreation Use Impairment**

Location: This cause encompasses the complete Western Branch, Elizabeth River

City / County: Chesapeake City      Portsmouth City

Use(s): Recreation

Cause(s) /  
VA Category: Enterococcus / 5A

The Recreation Use is impaired based on exceedance of the instantaneous criteria for Enterococcus bacteria as exhibited by data from the station 2-WBE004.44 ( 10 viol. / 49 obs.). TMDL ID = VAT-G15E-04-01.

Western Branch, Elizabeth River Recreation Use Impairment	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Enterococcus - Total Impaired Size by Water Type:	<b>2.021</b>		

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G15E-05-02-BAC**      **Lafayette River Recreation Use Impairment**

Location: This cause encompasses the upper portion of the Lafayette River

City / County: Norfolk City

Use(s): Recreation

Cause(s) /  
VA Category: Enterococcus / 5A

The Recreation Use is impaired based on exceedance of the criteria for Enterococcus bacteria as exhibited by data from the station 2-LAF003.83 ( 12 viol. / 51 obs.). TMDL ID = VAT-G15E-05-02.

Lafayette River Recreation Use Impairment	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Enterococcus - Total Impaired Size by Water Type:	<b>1.558</b>		

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **G15E-06-03-BAC**      **Hoffler Creek**

Location: This cause encompasses the entirety of Hoffler Creek. Located along south shore of Hampton Roads Harbor. Entirety of Hoffler Cr. South shore trib to James R. west of Craney Isl. (at mouth of Elizabeth R). CBP segment JMSMH. DSS (OPEN) shellfish harvesting condemnation # 057-069 F [effective 20030405].

City / County: Suffolk City

Use(s): Recreation

Cause(s) /  
VA Category: Enterococcus / 5A

The Recreation Use is assessed as impaired based on exceedance of the instantaneous criteria for Enterococcus bacteria at station 2-HOF000.44 ( 5 violate / 8 obs.). The impairment is added for the 2008 IR under ID = VAT-G15E-06-03. TMDL due date is 2020.

Hoffler Creek	Estuary	Reservoir	River
<b>Recreation</b>	(Sq. Miles)	(Acres)	(Miles)
Enterococcus - Total Impaired Size by Water Type:		<b>0.057</b>	

Sources:

Source Unknown



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H01R-01-BAC**

### Reed Creek

Location: The upper limit is the headwaters in the Jefferson National Forest on the Sedalia Quad (intersection of State Routes 638 and 764). The impairment ends at the mouth of Reed Creek on the James River below Big Island, Virginia (Snowden, Sedalia and Big Island Quads).

City / County: Bedford Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A

The Reed Creek Bacteria TMDL Load Duration Study received US EPA approval on 6/21/2004 [Fed. ID. 7763 / 21565] and SWCB approval on 12/02/2004 for these 1998 303(d) Listed waters (formerly 2002 thru 2006 VAW-H01R-01). Three stations are located within the 8.37 mile impaired waters (NHD mileage correction from 2002 Listing 12.27 miles). 2-RED000.16 (Off Route 501), the original listing station, and two additional stations 2-RED005.36 (Route 637 Bridge) and 2-RED008.32 (Route 122 Bridge). Escherichia coli (E.coli) replaces fecal coliform bacteria as the indicator with sufficient E.coli data as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

2-RED008.22- (Rt. 122 Bridge) Five of 17 E.coli samples exceed the 235 cfu/100 ml WQS instantaneous criterion. Values in excess of the criterion range from 350 to 1300 cfu/100 ml.

2-RED005.36- (Rt. 637 Bridge) E.coli exceedences of the instantaneous criterion are found in 12 of 17 samples where exceeding values range from 280 to 2000 cfu/100 ml.

2-RED000.16- (Off Rt. 501) Eight of 38 E.coli samples exceed the 235 cfu/100 ml WQS instantaneous criterion. Values in excess of the criterion range from 250 to 500 cfu/100 ml. Three of five GM calculations exceed the WQS 126 cfu/100 ml criterion.

Reed Creek

**Recreation**

Estuary  
(Sq. Miles)

Reservoir  
(Acres)

River  
(Miles)

Escherichia coli - Total Impaired Size by Water Type:

**8.37**

#### Sources:

Livestock (Grazing or  
Feeding Operations)

On-site Treatment Systems  
(Septic Systems and Similar  
Decentralized Systems)

Unspecified Domestic Waste

Wastes from Pets

Wildlife Other than  
Waterfowl

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H02R-01-BAC**      **Pedlar River**

Location: Pedlar River from the mouth of Little Cedar Creek to the confluence with an unnamed tributary just downstream of Route 610.

City / County: Amherst Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

Station ID: 2-POL008.53 4/12 violation rate for e coli

Pedlar River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>9.46</b>

Sources:

Non-Point Source

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H03R-01-BAC**      **Blackwater Creek**

Location: Blackwater Creek from the confluence of Tomahawk and Burton Creeks to its mouth at the James River.

City / County: Lynchburg City

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

Station ID: 2-BKW000.40 4/12 violation rate for e coli, 2-BKW005.95 2/12 violation rate for e coli, 2-BKW007.19 4/12 violation rate for e coli			
Blackwater Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			10.30

Sources:

Combined Sewer Overflows

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H03R-02-BAC**      **Fishing Creek**

Location: Fishing Creek from its headwaters to the mouth on the James River.

City / County: Lynchburg City

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

Station ID: 2-FSG000.85 5/12 violation rate for e coli

Fishing Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>5.44</b>

Sources:

Combined Sewer Overflows

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H03R-03-BAC** Ivy Creek

Location: Ivy Creek from its headwaters to its confluence with Blackwater Creek.

City / County: Lynchburg City

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

Station ID: 2-IVA000.22 3/12 violation rate for e coli, 2-IVA006.38 2/12 violation rate for e coli, 2-IVA012.13 4/21 violation rate for e coli			
Ivy Creek	Estuary	Reservoir	River
Recreation	(Sq. Miles)	(Acres)	(Miles)
Escherichia coli - Total Impaired Size by Water Type:			20.80

Sources:

Combined Sewer Overflows Non-Point Source

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H03R-04-BAC**      **James River**

Location: James River from Reusens Dam to its confluence with Archer Creek.

City / County: Amherst Co.      Campbell Co.      Lynchburg City

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

Partial Delist - E Coli - 8.18 miles  
Station ID: 2-JMS258.54 15/33 violation rate for e coli

James River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>10.53</b>

Sources:

Combined Sewer Overflows      Non-Point Source

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H03R-04-PCB**

**James River, Hardware River, Slate River**

Location: James River from Holcomb Rock Dam to its confluence with the Rivanna River.

City / County: Albemarle Co.	Amherst Co.	Appomattox Co.	Bedford Co.	Buckingham Co.
Campbell Co.	Chesterfield Co.	Cumberland Co.	Fluvanna Co.	Goochland Co.
Henrico Co.	Lynchburg City	Nelson Co.	Powhatan Co.	Richmond City

Use(s): Fish Consumption

Cause(s) /

VA Category: PCB in Fish Tissue / 5A

VDH Fish Advisory Information - Effective 12/13/04: James River mainstem from Big Island dam downstream to the I-95 Bridge in Richmond to include a portion of the Hardware and Slate Rivers. The advisory recommends that no more than two meals/month of the following species be consumed.

Gizzard Shad

Carp

American Eel

Flathead Catfish

Quillback Carpsucker

Visit the VDH website for more details: <http://www.vdh.state.va.us/HHControl/fishingadvisories.asp>

James River, Hardware River, Slate River

**Fish Consumption**

Estuary  
(Sq. Miles)

Reservoir  
(Acres)

River  
(Miles)

PCB in Fish Tissue - Total Impaired Size by Water Type:

**200.48**

Sources:

Contaminated Sediments

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H03R-05-BAC**      **Burton Creek**

Location: Burton Creek from its headwaters to its confluence with Tomahawk Creek.

City / County: Lynchburg City

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

Station ID: 2-BUN001.64 4/12 violation rate for e coli

Burton Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>3.45</b>

Sources:

Source Unknown



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H03R-06-BAC**      **Judith Creek**

Location: Judith Creek from its headwaters to its mouth on the James River.

City / County: Bedford Co.      Lynchburg City

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

Station ID: 2-JTH001.52 5/24 violation rate for e coli, 2-JTH006.53 2/9 violation rate for e coli

Judith Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>10.54</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H03R-07-BAC** Tomahawk Creek

Location: Tomahawk Creek from its headwaters to its confluence with Burton Creek.

City / County: Lynchburg City

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

Station ID: 2-THK002.33 3/12 violation rate for e coli, 2-THK001.31 4/12 violation rate for e coli

Tomahawk Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>5.89</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H03R-08-BAC** Williams Run

Location: Williams Run from its headwaters to its mouth on the James River.

City / County: Amherst Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

Station ID: 2-WLM002.69 5/12 violation rate for e coli

Williams Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>6.37</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H03R-09-BAC**      Dreaming Creek

Location: Dreaming Creek from its headwaters to its mouth on Burton Creek

City / County: Lynchburg City

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

Station ID: 2-DMG000.58 3/12 violation rate for e coli

Dreaming Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>4.69</b>

Sources:

Non-Point Source

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H03R-10-BAC**      **Burton Creek, Unnamed Tributary**

Location: Burton Creek, UT from its headwaters to its mouth on Burton Creek

City / County: Lynchburg City

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

Station ID: 2-XXA001.43 4/12 violation rate for e coli

Burton Creek, Unnamed Tributary	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>3.43</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H04R-01-BAC**      **Graham Creek**

Location: Graham Creek from its headwaters to the backwaters of Graham Creek Reservoir.

City / County: Amherst Co.

Use(s): Recreation

Cause(s) /  
VA Category: Fecal Coliform / 5A

Station ID: 2-GRA002.89 2/3 violation rate for fecal coliform

Graham Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Fecal Coliform - Total Impaired Size by Water Type:			<b>5.17</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H04R-02-BAC**      **Harris Creek**

Location: Harris Creek from its confluence with Falling Rock Creek to just upstream of the Amherst County USA secondary water intake.

City / County: Amherst Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

Station ID: 2-GRA010.92 2/9 violation rate for e coli

Harris Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>7.27</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H05R-03-BAC** Beaver Creek

Location: Beaver Creek from the mouth of an unnamed tributary near Route 501 to its mouth on the James River.

City / County: Campbell Co.

Use(s): Recreation

Cause(s) /  
VA Category: Fecal Coliform / 5A

Station ID: 2-BCR000.20 2/14 violation rate for e coli

Beaver Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Fecal Coliform - Total Impaired Size by Water Type:			<b>8.50</b>

Sources:

Source Unknown



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H05R-04-BAC**      **Opossum Creek**

Location: Opossum Creek from the Route 660 crossing to its mouth on the James River.

City / County: Campbell Co.

Use(s): Recreation

Cause(s) /  
VA Category: Fecal Coliform / 5A

Station ID: 2-OPP000.16 3/13 violation rate for fecal coliform

Opossum Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Fecal Coliform - Total Impaired Size by Water Type:			<b>3.04</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H05R-05-BAC**      **Stonewall Creek**

Location: Stonewall Creek from its headwaters to its mouth on the James River

City / County: Appomattox Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

Station ID: 2-STW001.72 2/9 violation rate for e coli

Stonewall Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>9.04</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H06R-01-BAC**      **Wreck Island Creek**

Location: Wreck Island Creek from the confluence with Little Wreck Island Creek to its mouth on the James River.

City / County: Appomattox Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

Station ID: 2-WIC000.40 2/12 violation rate for e coli

Wreck Island Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>9.75</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H07R-01-BAC**      **Bent Creek**

Location: Bent Creek from its headwaters to the mouth on the James River.

City / County: Appomattox Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

Station ID: 2-BTC000.16 2/9 violation rate for e coli

Bent Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>13.46</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H09R-01-BEN**      **Montebello Spring Branch**

Location: Montebello Spring Branch from the spring downstream to its confluence with Mill Creek. (Start Mile: .01 End Mile: 0.00 Total Impaired Size: .01 Miles)

City / County: Nelson Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

This segment is impaired due to a severely impaired benthic assessment in 1998 at station 2-MSB000.01. This site was not visited in the 2008 cycle so the benthic impairment carries forward to 2008. Initial Listing Date: 1998; This impairment was included in the EPA approved TMDL for Trout Farm watersheds. Federal TMDL ID # 20746

Montebello Spring Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			<b>0.10</b>

Sources:

Aquaculture (Permitted)

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H09R-01-PH**      **Montebello Spring Branch**

Location: Montebello Spring Branch from the spring downstream to its confluence with Mill Creek. (Start Mile: .01 End Mile: 0.00 Total Impaired Size: .01 Miles)

City / County: Nelson Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: pH / 5A

This segment is impaired due to violations of the pH WQS at station: 2-XXM000.01 (2 violations of 3 samples for pH). Initial Listing Date: 2004.

Montebello Spring Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
pH - Total Impaired Size by Water Type:			<b>0.10</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H09R-02-BAC**      **Hat Creek**

Location: Hat Creek from the headwaters downstream to its confluence with the Tye River. (Start Mile: 9.58 End Mile: 0.00 Total Impaired Size: 9.58 Miles)

City / County: Nelson Co.

Use(s): Recreation

Cause(s) /  
VA Category: Fecal Coliform / 5A

This segment remains impaired due to violations of the fecal coliform bacteria WQS at station: 2-HAT000.14 (5 violations of 12 samples for fecal coliform). Initial Listing Date: 2004; This impairment carries forward from the 2006 assessment based on fecal coliform as no additional e-coli data are available for 2008.

Hat Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Fecal Coliform - Total Impaired Size by Water Type:			<b>9.58</b>

Sources:

Non-Point Source	Wildlife Other than Waterfowl
------------------	-------------------------------

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H09R-03-BAC**      **Tye River**

Location: Tye River from its confluence with Hat Creek downstream to its confluence with the James River. (Start Mile: 24.26 End Mile: 0.00 Total Impaired Size: 24.26 Miles)

City / County: Amherst Co.      Nelson Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A      Fecal Coliform / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at stations: 2-TYE008.77 (2 violations of 10 samples for e-coli) and 2-TYE020.67 (4 violations of 26 samples for e-coli) and 2-TYE000.30 (2 violations of 9 samples for e-coli). Initial Listing Date: 2004. Upstream segments added in 2006.

Tye River	Estuary	Reservoir	River
<b>Recreation</b>	(Sq. Miles)	(Acres)	(Miles)
Escherichia coli - Total Impaired Size by Water Type:			<b>24.26</b>
Tye River	Estuary	Reservoir	River
<b>Recreation</b>	(Sq. Miles)	(Acres)	(Miles)
Fecal Coliform - Total Impaired Size by Water Type:			<b>7.61</b>

Sources:

Agriculture      Non-Point Source      Wildlife Other than Waterfowl



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H09R-04-TEMP**      **Tye River**

Location: Tye River from its headwaters (confluence of North and South Forks) downstream to its confluence with Silver Creek. (Start Mile: 28.05 End Mile: 24.29 Total Impaired Size: 3.76 Miles)

City / County: Nelson Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Temperature, water / 5A

This segment is impaired due to violations of the temperature WQS at station: 2-TYE032.15 (3 violations of 11 samples for temperature). Initial Listing Date: 2006.

Tye River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Temperature, water - Total Impaired Size by Water Type:			<b>3.76</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H09R-05-TEMP**      **South Fork Tye River**

Location: South Fork Tye River and tributaries from the headwaters downstream to its confluence with the Tye River. (Start Mile: 16.65  
End Mile: 0.00 Total Impaired Size: 16.65 Miles)

City / County: Nelson Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Temperature, water / 5A

This segment is impaired due to violations of the temperature WQS at station: 2-TYS002.04 (2 violations of 11 samples for temperature). Initial Listing Date: 2006.

South Fork Tye River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Temperature, water - Total Impaired Size by Water Type:			<b>16.65</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H10R-01-BAC**      **Piney River**

Location: Piney River from its confluence with Indian Creek downstream to its confluence with the Tye River. (Start Mile: 6.95 End Mile: 0.00 Total Impaired Size: 6.95 Miles)

City / County: Amherst Co.      Nelson Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 2-PNY005.29 (4 violations of 31 samples for e-coli). Initial Listing Date: 2008.

Piney River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>6.95</b>

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl
-------------	------------------	-------------------------------

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H11L-01-DO**      **Stonehouse Creek Reservoir**

Location: Stonehouse Creek Reservoir from its impounding structure upstream to its backwaters.

City / County: Amherst Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Oxygen, Dissolved / 5A

Station ID: 2-SHS001.00 4/30 violation rate for dissolved oxygen. Dissolved oxygen samples from epilimnion when lake is stratified and the entire water column when the lake is not stratified.

Stonehouse Creek Reservoir	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>33.53</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H11L-01-PH**      **Stonehouse Creek Reservoir**

Location: Stonehouse Creek Reservoir from its impounding structure upstream to its backwaters.

City / County: Amherst Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 5A

Station ID: 2-SHS001.00 14/89 violation rate for pH. pH samples from the entire water column.

Stonehouse Creek Reservoir	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
pH - Total Impaired Size by Water Type:			<b>33.53</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H11L-02-DO**      **Thrashers Creek Reservoir**

Location: Thrashers Creek Reservoir from its impounding structure upstream to its backwaters

City / County: Amherst Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Oxygen, Dissolved / 5A

Station ID: 2-TRH000.40 5/34 violation rate for dissolved oxygen. Dissolved oxygen samples from epilimnion when lake is stratified and the entire water column when the lake is not stratified.

Thrashers Creek Reservoir	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>31.96</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H11L-02-PH**      **Thrashers Creek Reservoir**

Location: Thrashers Creek Reservoir from its impounding structure upstream to its backwaters

City / County: Amherst Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 5A

Station ID: 2-TRH000.40 23/103 violation rate for pH. pH samples from the entire water column.

Thrashers Creek Reservoir	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
pH - Total Impaired Size by Water Type:			<b>31.96</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H11R-01-BAC** Buffalo River

Location: Buffalo River from its confluence with Franklin Creek to the upstream end of the WQS PWS designation.

City / County: Amherst Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

Station ID: 2-BUF023.21 3/12 violation rate for e coli

Buffalo River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>5.87</b>

Sources:

Source Unknown



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H11R-01-BEN**      **Long Branch**

Location: Long Branch from its headwaters to its mouth on the Buffalo River

City / County: Amherst Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID: 2-LOB000.37 Freshwater Probabilistic Monitoring

Long Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			<b>3.40</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H11R-02-BAC**      **Mill Creek**

Location: Mill Creek from its headwaters to the backwaters of Mill Creek Reservoir.

City / County: Amherst Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

Station ID: 2-MIN002.25 4/7 violation rate for e coli

Mill Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>3.92</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H11R-02-BEN**      **Buffalo River**

Location: Buffalo River from its confluence with Long Branch downstream to its confluence with Franklin Creek.

City / County: Amherst Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID: 2-BUF026.43

Buffalo River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			<b>1.96</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H12R-01-BAC**      **Rutledge Creek**

Location: Rutledge Creek from the Rutledge Creek WWTP discharge downstream to its mouth on the Buffalo River.

City / County: Amherst Co.

Use(s): Recreation

Cause(s) /  
VA Category: Fecal Coliform / 5A

Station ID: 2-RTD003.08 3/16 violation rate for fecal coliform

Rutledge Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Fecal Coliform - Total Impaired Size by Water Type:			<b>3.16</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H12R-03-BAC** Buffalo River

Location: Buffalo River mainstem from its mouth on the Tye River upstream to Rocky Creek

City / County: Amherst Co. Nelson Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

Station ID: 2-BUF002.10 3/27 violation rate for e coli

Buffalo River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>7.78</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H12R-04-BAC**      **Turner Creek**

Location: Turner Creek from its headwaters to the mouth on the Buffalo River.

City / County: Amherst Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

Station ID: 2-TNR000.25 3/9 violation rate for e coli

Turner Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>4.36</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H13R-01-BAC**      **Rucker Run**

Location: Rucker Run from the headwaters downstream to its confluence with the Tye River. (Start Mile: 18.26 End Mile: 0.00 Total Impaired Size: 18.26 Miles)

City / County: Nelson Co.

Use(s): Recreation

Cause(s) /  
VA Category: Fecal Coliform / 5A

This segment remains impaired due to violations of the fecal coliform bacteria WQS. Data in the 2006 cycle indicate were insufficient information status and no additional data is in the 2008 data window. Initial Listing Date: 2004.

Rucker Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Fecal Coliform - Total Impaired Size by Water Type:			<b>18.26</b>

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl
-------------	------------------	----------------------------------

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H15R-01-BAC**      **South Fork Rockfish River**

Location: South Fork Rockfish River from the headwaters downstream to its confluence with the Rockfish River. (Start Mile: 11.6 End Mile: 0.00 Total Impaired Size: 11.6 Miles)

City / County: Nelson Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A

Fecal Coliform / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 2-RFS001.00 (2 violations of 12 samples for e-coli). Initial Listing Date: 2004.

South Fork Rockfish River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>11.60</b>
South Fork Rockfish River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Fecal Coliform - Total Impaired Size by Water Type:			<b>11.60</b>

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl
-------------	------------------	-------------------------------



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H15R-02-BAC**      **North Fork Rockfish River**

Location: North Fork Rockfish River from the headwaters downstream to its confluence with the Rockfish River. (Start Mile: 7.25 End Mile: 0.00 Total Impaired Size: 7.25 Miles)

City / County: Nelson Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 2-RFN002.83 (4 violations of 12 samples for e-coli). Initial Listing Date: 2006.

North Fork Rockfish River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>7.25</b>

Sources:

Non-Point Source	Wildlife Other than Waterfowl
------------------	-------------------------------

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H15R-03-BEN**      **Taylor Creek**

Location: Taylor Creek from the headwaters downstream to a major tributary above the confluence with the North Fork of Perry Creek.  
(Start Mile: 4.51 End Mile: 0.00 Total Impaired Size: 4.51 Miles)

City / County: Nelson Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at station: 2-TLR000.52 (Impaired for VSCI).  
Initial Listing Date: 2008.

Taylor Creek	Estuary	Reservoir	River
<b>Aquatic Life</b>	(Sq. Miles)	(Acres)	(Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			<b>4.52</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H16R-01-BAC**      **Rockfish River**

Location: Rockfish River from the headwaters downstream to its confluence with Davis Creek. (Start Mile: 29.58 End Mile: 23.08 Total Impaired Size: 6.50 Miles)

City / County: Nelson Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 2-RKF026.42 ( 3 violations of 12 samples for e-coli). Initial Listing Date: 2006.

Rockfish River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>6.50</b>

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl
-------------	------------------	----------------------------------

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H17R-01-BAC**      **Totier Creek**

Location: Totier Creek from the headwaters downstream to its confluence with the James River. (Start Mile: 10.53 End Mile: 0.00 Total Impaired Size: 10.53 Miles)

City / County: Albemarle Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A

Fecal Coliform / 4A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 2-TOT002.61 (11 violations of 30 samples for e-coli). Initial Listing Date: 2002. This segment is included in the EPA approved James River watersheds bacteria TMDL. Federal TMDL ID # 33549

Totier Creek	Estuary	Reservoir	River
<b>Recreation</b>	(Sq. Miles)	(Acres)	(Miles)
Escherichia coli - Total Impaired Size by Water Type:			<b>9.50</b>
Totier Creek	Estuary	Reservoir	River
<b>Recreation</b>	(Sq. Miles)	(Acres)	(Miles)
Fecal Coliform - Total Impaired Size by Water Type:			<b>10.23</b>

Sources:

Agriculture

Non-Point Source

Wildlife Other than  
Waterfowl

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H17R-03-BAC**      **Ballinger Creek**

Location: Ballinger Creek from its headwaters to its mouth on the James River.

City / County: Albemarle Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

Station ID: 2-BLR003.00 4/18 violation rate for e coli

Ballinger Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>9.88</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H17R-04-BAC**      **Rock Island Creek**

Location: Rock Island Creek from its headwaters to its mouth on the James River.

City / County: Buckingham Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

Station ID: 2-RKI003.40 3/18 violation rate for e coli

Rock Island Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>8.81</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H17R-05-BAC**      **James River**

Location: James River from the Rockfish River to the Hardware River

City / County: Albemarle Co.      Buckingham Co.      Fluvanna Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

Station ID: 2-JMS189.31 3/25 violation rate for e coli

James River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>20.40</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H17R-05-BEN**      **Totier Creek**

Location: Totier Creek from the RWSA-Scottsville Public Water Intake downstream to its confluence with the James River. (Start Mile: .75 End Mile: 0.00 Total Impaired Size: .75 Miles)

City / County: Albemarle Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthic at station: 2-TOT000.08 (Impaired for VSCI).  
Initial Listing Date: 2006.

Totier Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			<b>0.73</b>

Sources:

Source Unknown



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H18R-01-BAC**      **North Fork Hardware River**

Location: North Fork Hardware River from the headwaters downstream to its confluence with the Hardware River.

City / County: Albemarle Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A      Fecal Coliform / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at stations: 2-HNF005.03 (3 violations of 9 samples for e-coli) and 2-HNF008.28 (9 violations of 18 samples for e-coli). Initial Listing Date: 2004.

North Fork Hardware River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>10.37</b>
North Fork Hardware River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Fecal Coliform - Total Impaired Size by Water Type:			<b>10.37</b>

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl
-------------	------------------	-------------------------------

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H18R-02-BAC**      **South Branch North Fork Hardware River**

Location: South Branch North Fork Hardware River from the headwaters downstream to its confluence with the North Fork Hardware River. (Start Mile: 12.02 End Mile: 0.00 Total Impaired Size: 12.02 Miles)

City / County: Albemarle Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 2-HNS002.40 (5 violations of 9 samples for e-coli). Initial Listing Date: 2008.

South Branch North Fork Hardware River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>12.02</b>

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl
-------------	------------------	----------------------------------

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H19R-01-BAC**      **Hardware River**

Location: Hardware River from the headwaters downstream to its confluence with the James River. (Start Mile: 23.11 End Mile: 0.00  
Total Impaired Size: 23.11 Miles)

City / County: Albemarle Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A

Fecal Coliform / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 2-HRD011.57 (6 violations of 34 samples for e-coli). Initial Listing Date: 2002.

Hardware River	Estuary	Reservoir	River
<b>Recreation</b>	(Sq. Miles)	(Acres)	(Miles)
Escherichia coli - Total Impaired Size by Water Type:			<b>23.11</b>
Hardware River	Estuary	Reservoir	River
<b>Recreation</b>	(Sq. Miles)	(Acres)	(Miles)
Fecal Coliform - Total Impaired Size by Water Type:			<b>23.11</b>

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl
-------------	------------------	-------------------------------

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H20R-01-BAC**      **Bear Garden Creek**

Location: Bear Garden Creek from its headwaters to its mouth on the James River.

City / County: Buckingham Co.

Use(s): Recreation

Cause(s) /  
VA Category: Fecal Coliform / 5A

Station ID: 2-BGC000.58 No New Data in 2008

Bear Garden Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Fecal Coliform - Total Impaired Size by Water Type:			<b>9.18</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H20R-02-BEN**      **North Creek**

Location: North Creek from its headwaters to the first unnamed tributary confluence

City / County: Fluvanna Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID: 2-NOR003.59 and 2-NOR00.328 Impaired Benthic Community - Ongoing sampling to determine benthic status in response to the Fork Union Military Academy STP upgrade

North Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			<b>3.25</b>

### Sources:

Municipal Point Source  
Discharges

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H21R-03-BAC**      **North River**

Location: North River from the confluence with an unnamed tributary near Route 56 to its headwaters

City / County: Buckingham Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 4A

Station ID: 2-NTH003.88 4/12 violation rate for e coli

North River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>5.24</b>

Sources:

Livestock (Grazing or Feeding Operations)      Wastes from Pets

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H21R-04-BAC**      **Slate River**

Location: Slate River from the confluence with Walton Fork downstream to its confluence with Muddy Creek

City / County: Buckingham Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

Station ID: 2-SLT018.85 3/22 violation rate for e coli

Slate River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>4.74</b>

Sources:

Livestock (Grazing or Feeding Operations)      Wastes from Pets

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H21R-06-BAC** Grease Creek

Location: Grease Creek from its headwaters to its mouth on the Slate River

City / County: Buckingham Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

Station ID: 2-GRD001.62 2/9 violation rate for e coli

Grease Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>10.61</b>

Sources:

Source Unknown



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H22R-01-BAC**      **Slate River**

Location: Slate River from the confluence with Sharps Creek to its confluence with Muddy Creek

City / County: Buckingham Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 4A

Station ID: 2-SLT014.52 3/24 violation rate for e coli  
Segment not included in Slate River Watershed TMDL

Slate River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>10.97</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H22R-02-BAC**      **Muddy Creek**

Location: Muddy Creek from its headwaters to its mouth on the Slate River

City / County: Buckingham Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

Station ID: 2-MYC000.50 3/9 violation rate for e coli

Muddy Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>6.71</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H22R-03-BAC** Turpin Creek

Location: Turpin Creek from its headwaters to its mouth on the Slate River

City / County: Buckingham Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

Station ID: 2-TPN003.59 4/12 violation rate for e coli

Turpin Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>7.22</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H23L-01-PH**      **Lake Albemarle**

Location: Lake Albemarle (Total Impaired Size: 37.01 Acres)

City / County: Albemarle Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 5A

This lake is impaired due to violations of the pH WQS at station: 2-SIN000.44 (2 violations of 7 samples for pH). Initial Listing Date: 2004.

Lake Albemarle	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
pH - Total Impaired Size by Water Type:			<b>37.01</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H23L-02-PH** Beaver Creek Reservoir

Location: Beaver Creek Reservoir (Total Impaired Size: 95.54 Acres)

City / County: Albemarle Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 5A

This lake is impaired due to violations of the pH WQS at station: 2-BVR002.19 (20 violations of 46 samples for pH). Initial Listing Date: 2006.

Beaver Creek Reservoir	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			95.54

Sources:

Atmospheric Deposition -  
Acidity

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H23R-01-BEN**      **Broad Axe Run**

Location: Broad Axe Run from the headwaters downstream to its confluence with the Mechums River. (Start Mile: 1.95 End Mile: 0.00  
Total Impaired Size: 1.95 Miles)

City / County: Albemarle Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at station: 2-BRX000.66 (Impaired for VSCI).  
Initial Listing Date: 2004.

Broad Axe Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			<b>1.95</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H23R-02-BAC** Beaver Creek

Location: Beaver Creek from the headwaters downstream to the Beaver Creek Reservoir. (Start Mile: 5.56 End Mile: 2.01 Total Impaired Size: 3.55 Miles)

City / County: Albemarle Co.

Use(s): Recreation

Cause(s) /  
VA Category: Fecal Coliform / 5A

This segment remains impaired due to violations of the fecal coliform bacteria WQS in the 2004 cycle. No additional data are in the 2008 cycle and this impairment is carried forward. Initial Listing Date: 2004.

Beaver Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			3.55

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl
-------------	------------------	----------------------------------

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H23R-03-BAC**      **Mechums River**

Location: Mechums River from its confluence with Lickinghole Creek downstream to its confluence with the Moormans River. (Start Mile: 10.45 End Mile: 0.00 Total Impaired Size: 10.45 Miles)

City / County: Albemarle Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 2-MCM005.12 (6 violations of 41 samples for e-coli). Initial Listing Date: 2006.

Mechums River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>10.45</b>

Sources:

Non-Point Source	Wildlife Other than Waterfowl
------------------	-------------------------------



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H23R-03-BEN**      **Mechums River**

Location: Mechums River from the headwaters downstream to its confluence with Lickinghole Creek. (Start Mile: 24.28 End Mile: 10.45 Total Impaired Size: 14.07 Miles)

City / County: Albemarle Co.      Nelson Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at station: 2-MCM018.92 (Impaired for VSCI).  
Initial Listing Date: 2004.

Mechums River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			<b>14.07</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H24R-01-DO**      **North Fork Moormans River**

Location: North Fork Moormans River and tributaries from the headwaters downstream to the Charlottesville Reservoir. (Start Mile: 10.97 End Mile: 0.00 Total Impaired Size: 10.97 Miles)

City / County: Albemarle Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Oxygen, Dissolved / 5A

This segment is impaired due to violations of the dissolved oxygen WQS. This was due to two violations of the DO WQS at USGS 203143670 in the 2004 cycle. No additional data is available for assessment and this impairment must carry forward to the 2008 cycle. Initial Listing Date: 2004.

North Fork Moormans River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>10.97</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H26R-02-PH** Ivy Creek

Location: Ivy Creek from the headwaters downstream to its confluence with Little Ivy Creek. (Start Mile: 13.38 End Mile: 8.16 Total Impaired Size: 5.22 Miles)

City / County: Albemarle Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 5A

This segment is impaired due to violations of the pH WQS at station: 2-IVC010.20 (2 violations of 6 samples for pH). Initial Listing Date: 2006.

Ivy Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			5.22

Sources:

Atmospheric Deposition -  
Acidity

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H26R-03-BEN** Ivy Creek

Location: Ivy Creek from its confluence with Little Ivy Creek downstream to its confluence with the South Fork Rivanna River Reservoir. (Start Mile: 8.16 End Mile: 1.97 Total Impaired Size: 6.19 Miles)

City / County: Albemarle Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at stations: 2-IVC005.19 (Impaired for VSCI) and 2-IVC006.98 (Impaired for VSCI). Initial Listing Date: 2008.

Ivy Creek	Estuary	Reservoir	River
<b>Aquatic Life</b>	(Sq. Miles)	(Acres)	(Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			<b>6.19</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H27L-01-DO**      **Chris Green Lake**

Location: Chris Green Lake (Total Impaired Size: 57 Acres)

City / County: Albemarle Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Oxygen, Dissolved / 4C

The lake is impaired due to violations of the DO WQS. These violations have been determined to be a naturally occurring DO impairment in the hypolimnion during the summer months when the lake is thermally stratified. TSI results indicate that this is naturally occurring. This lake will be added to the Virginia Lake Nutrient Criteria (187) in the future for nutrient evaluation. This assessment unit is considered 4C-No TMDL Needed due to natural conditions. Initial Listing Date: 2008.

Chris Green Lake	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>57.07</b>

Sources:

Natural Sources

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H27R-03-BAC**      **Preddy Creek**

Location: Preddy Creek and tributaries from the headwaters downstream to its confluence with the North Fork Rivanna River. (Start Mile: 25.94 End Mile: 0.00 Total Impaired Size: 25.94 Miles)

City / County: Albemarle Co.      Orange Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 2-PRD000.21 (3 violations of 12 samples for e-coli). Initial Listing Date: 2006.

Preddy Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>25.94</b>

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl
-------------	------------------	----------------------------------

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H27R-04-BAC**      **North Fork Rivanna River**

Location: North Fork Rivanna River from the RWSA-North Fork Rivanna River Public Water Intake downstream to its confluence with the Rivanna River. (Start Mile: 10.36 End Mile: 0.00 Total Impaired Size: 10.36 Miles)

City / County: Albemarle Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 2-RRN002.19 (5 violations of 21 samples for e-coli). Initial Listing Date: 2006.

North Fork Rivanna River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>10.36</b>

Sources:

Non-Point Source	Wildlife Other than Waterfowl
------------------	-------------------------------

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H28L-01-PH**      **Ragged Mountain Reservoir**

Location: Ragged Mountain Reservoir (Total Impaired Size: 70.74 Acres)

City / County: Albemarle Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 5A

This lake is impaired due to violations of the pH WQS at station: 2-XLV002.27 (14 violations of 95 samples for pH). Initial Listing Date: 2008.

Ragged Mountain Reservoir	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
pH - Total Impaired Size by Water Type:			<b>70.74</b>

### Sources:

Atmospheric Deposition -  
Acidity



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H28R-01-BEN** Rivanna River

Location: Rivanna River from its confluence with the North/South Fork Rivanna downstream to an unnamed tributary just below the RWSA-Glenmore STP. (Start Mile: 41.93 End Mile: 30.77 Total Impaired Size: 11.16 Miles)

City / County: Albemarle Co. Charlottesville City

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at stations: 2-RVN033.65 (Impaired for VSCI) and 2-RVN035.67 (Impaired for VSCI). Initial Listing Dates: 1996 and 2006.

Rivanna River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			<b>11.14</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H28R-02-BAC**      **Moores Creek**

Location: Moores Creek from its confluence with the Ragged Mountain Dam receiving stream downstream to its confluence with the Rivanna River. (Start Mile: 6.37 End Mile: 0.00 Total Impaired Size: 6.37 Miles)

City / County: Albemarle Co.      Charlottesville City

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A      Fecal Coliform / 4A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 2-MS000.60 (10 violations of 18 samples for e-coli) and 2-MS004.43 (3 violations of 9 samples for e-coli). Initial Listing Date: 2002. This assessment unit was included in the EPA approved Moores Creek bacteria TMDL. Federal TMDL ID # 23392

Moores Creek	Estuary	Reservoir	River
<b>Recreation</b>	(Sq. Miles)	(Acres)	(Miles)
Escherichia coli - Total Impaired Size by Water Type:			<b>6.37</b>

Moores Creek	Estuary	Reservoir	River
<b>Recreation</b>	(Sq. Miles)	(Acres)	(Miles)
Fecal Coliform - Total Impaired Size by Water Type:			<b>6.37</b>

Sources:

Agriculture	Municipal (Urbanized High Density Area)	Non-Point Source	Wildlife Other than Waterfowl
-------------	---	------------------	-------------------------------

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H28R-02-BEN**      **Moores Creek**

Location: Moores Creek from its confluence with the Ragged Mountain Dam receiving stream downstream to its confluence with the Rivanna River. (Start Mile: 6.37 End Mile: 0.00 Total Impaired Size: 6.37 Miles)

City / County: Albemarle Co.      Charlottesville City

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at station: 2-MS000.60 (Impaired for VSCI).  
Initial Listing Date: 2008.

Moores Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			<b>6.37</b>

Sources:

Municipal (Urbanized High      Non-Point Source  
Density Area)

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H28R-03-BAC** Meadow Creek

Location: Meadow Creek from headwaters to the confluence with Rivanna River. (Start Mile: 4 End Mile: 0.00 Total Impaired Size: 4 Miles)

City / County: Albemarle Co. Charlottesville City

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A Fecal Coliform / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 2-MWC000.60 (4 violations of 12 samples for e-coli). Initial Listing Date 2002.

Meadow Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			4.00
Meadow Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			4.00

Sources:

Municipal (Urbanized High Density Area)	Non-Point Source	Wildlife Other than Waterfowl
---	------------------	-------------------------------

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H28R-04-BEN**      **Moores Creek X-trib**

Location: Moores Creek X-trib from the headwaters downstream to its confluence with Moores Creek. (Start Mile: 1.57 End Mile: 0.00  
Total Impaired Size: 1.57 Miles)

City / County: Charlottesville City

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at station: 2-XRC001.15 (Impaired for VSCI).  
Initial Listing Date: 2006.

Moores Creek X-trib	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			<b>1.57</b>

Sources:

Non-Point Source

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H28R-05-BEN** Meadow Creek

Location: Meadow Creek from where it becomes a perennial stream downstream to its confluence with Moores Creek. (Start Mile: 4  
End Mile: 0.00 Total Impaired Size: 4 Miles)

City / County: Albemarle Co. Charlottesville City

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at station: 2-MWC000.60 (Impaired for VSCI).  
Initial Listing Date: 2006.

Meadow Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			<b>4.00</b>

Sources:

Non-Point Source

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H28R-06-BAC** Rivanna River

Location: Rivanna River from its confluence with the North/South Fork Rivanna downstream to its confluence with Moores Creek.  
(Start Mile: 41.93 End Mile: 36.65 Total Impaired Size: 5.28 Miles)

City / County: Albemarle Co. Charlottesville City

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 2-RVN037.54 (2 violations of 12 samples for e-coli). Initial Listing Date: 2006.

Rivanna River	Estuary	Reservoir	River
<b>Recreation</b>	(Sq. Miles)	(Acres)	(Miles)
Escherichia coli - Total Impaired Size by Water Type:			<b>5.26</b>

Sources:

Non-Point Source

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H28R-07-BEN**      **Schenks Branch**

Location: Schenks Branch and tributaries from the headwaters downstream to its confluence with Meadow Creek. (Start Mile: 1.13  
End Mile: 0.00 Total Impaired Size: 1.13 Miles)

City / County: Charlottesville City

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at stations: 2-SNK000.88 (Impaired for VSCI);  
2-XSN000.08 (Impaired for VSCI) and 2-XSN000.18 (Impaired for VSCI). Initial Listing Date: 2008.

Schenks Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			<b>1.13</b>

Sources:

Municipal (Urbanized High      Non-Point Source  
Density Area)



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H29R-03-BAC**      **Buck Island Creek**

Location: Buck Island Creek from the headwaters downstream to its confluence with the Rivanna River. (Start Mile: 8.98 End Mile: 0.00 Total Impaired Size: 8.98 Miles)

City / County: Albemarle Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 2-BID002.11 (2 violations of 9 samples for e-coli). Initial Listing Date: 2008.

Buck Island Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>8.98</b>

Sources:

Agriculture	Natural Sources	Non-Point Source	Wildlife Other than Waterfowl
-------------	-----------------	------------------	----------------------------------

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H31R-01-BEN**      **Rivanna River**

Location: Rivanna River from its confluence with Cunningham Creek downstream to its confluence with the James River. (Start Mile: 15.17 End Mile: 0.00 Total Impaired Size: 15.17 Miles)

City / County: Fluvanna Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at station: 2-RVN012.05 (Impaired for VSCI).  
Initial Listing Date: 2008.

Rivanna River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			<b>15.17</b>

Sources:

Non-Point Source

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H32L-01-PH**      **Fluvanna Ruritan Lake**

Location: Fluvanna Ruritan Lake (Total Impaired Size: 51.13 Acres)

City / County: Fluvanna Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 5A

This lake is impaired due to violations of the pH WQS at station: 2-CFK004.34 (29 violations of 43 samples for pH). Initial Listing Date: 2006.

Fluvanna Ruritan Lake	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
pH - Total Impaired Size by Water Type:			<b>51.13</b>

### Sources:

Atmospheric Deposition -  
Acidity

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H32R-01-BEN**      **Middle Fork Cunningham Creek**

Location: Middle Fork Cunningham Creek and tributary from the headwaters downstream to its confluence with an unnamed tributary originating near Antioch. (Start Mile: 6.81 End Mile: 3.08 Total Impaired Size: 3.73 Miles)

City / County: Fluvanna Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5C

This segment had a fully supporting for VSCI benthic assessment during the 2008 cycle. This benthic impairment has been determined to be natural (drought). The segment remains not supporting as two unimpaired benthic assessments are required to de-list. Initial Listing Date: 2004.

Middle Fork Cunningham Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			<b>3.73</b>

Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H32R-02-BAC**      **Middle Fork Cunningham Creek**

Location: Middle Fork Cunningham Creek and tributary from the headwaters downstream to its confluence with Cunningham Creek.  
(Start Mile: 6.81 End Mile: 0.00 Total Impaired Size: 6.81 Miles)

City / County: Fluvanna Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at stations: 2-CNM002.25 (6 violations of 18 samples for e-coli) and 2-CNM004.16 (2 violations of 12 samples for e-coli). Initial Listing Date: 2004.

Middle Fork Cunningham Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>6.81</b>

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl
-------------	------------------	----------------------------------

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H32R-03-BAC**      **Middle Fork Cunningham Creek X-trib**

Location: Middle Fork Cunningham Creek X-trib from the headwaters downstream to its confluence with the Middle Fork Cunningham Creek. (Start Mile: 3.60 End Mile: 0.00 Total Impaired Size: 3.60 Miles)

City / County: Fluvanna Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 2-XPA000.57 (2 violations of 12 samples for e-coli). Initial Listing Date: 2008.

Middle Fork Cunningham Creek X-trib	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>3.60</b>

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl
-------------	------------------	----------------------------------

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H33R-02-DO**      **Deep Creek**

Location: Segment begins at the confluence of Deep Creek with Maxey Mill Creek, and extends downstream to the Route 684 bridge.  
City / County: Powhatan Co.

Use(s): Aquatic Life  
Cause(s) /  
VA Category: Oxygen, Dissolved / 5C

During the 2008 cycle, the segment was assessed as impaired of the Aquatic Life Use because of a DO violation rate of 2/12 at 2-DCR003.00. The TMDL is due in 2020, but natural conditions are suspected. The DO violation rates at the other stations were acceptable (2/22 at 2-DCR007.93 and 1/10 at 2-DCR013.89), however the current segmentation is maintained until the Natural Condition Assessment can be performed.

Deep Creek	Estuary	Reservoir	River
<b>Aquatic Life</b>	(Sq. Miles)	(Acres)	(Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>11.37</b>

Sources:  
Natural Conditions - Water  
Quality Standards Use  
Attainability Analyses  
Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H33R-03-DO**                      **Stegers Creek**

Location: Segment comprises Stegers Creek from its headwaters to the confluence with Sallee Creek, including upper and lower Powhatan Lakes.

City / County: Powhatan Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Oxygen, Dissolved / 5C

This segment was assessed as not supporting of the Aquatic Life Use goals in the 2002 cycle based on dissolved oxygen standard exceedances at three special study stations (2-STG002.00, 2-STG000.91, 2-STG000.21). There has been no additional monitoring.

The dams for both upper and lower Powhatan Lakes broke during a storm in summer 2004. Additional monitoring is recommended.

Stegers Creek	Estuary	Reservoir	River
<b>Aquatic Life</b>	(Sq. Miles)	(Acres)	(Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>4.59</b>

Sources:

Dam or Impoundment



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H33R-04-BAC**      **Muddy Creek**

Location: Muddy Creek from the confluence with Davis Creek downstream to its mouth at the James River.

City / County: Cumberland Co.      Powhatan Co.

Use(s): Recreation

Cause(s) /  
VA Category: Fecal Coliform / 5A

Muddy Creek was assessed as not supporting of the Recreation Use goals in the 2006 cycle based on a fecal coliform violation rate of 2/12 at the Route 684 bridge (2-MUY001.23).

There has been no E. coli monitoring at this site, therefore the impairment is carried over.

Muddy Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Fecal Coliform - Total Impaired Size by Water Type:			<b>3.66</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H34R-01-BAC**      **Byrd Creek**

Location: Segment comprises all of Byrd Creek, from its headwaters to its mouth at the Little River.

City / County: Fluvanna Co.      Goochland Co.      Louisa Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A

The segment was initially considered fully supporting but threatened of the Recreation Use in 1998. It was later identified by EPA for listing consideration. In the 2002 cycle, the segment was downgraded to impaired of the Recreation use support goal based on fecal coliform standard violations recorded at the Route 603 bridge (2-BYR003.35); therefore the TMDL is due in 2010.

During the 2008 cycle, TMDL monitoring for E. coli was conducted throughout the watershed. Byrd Creek's impairment was converted to E. coli based on the following violation rates:

2-BYR000.50 (2/10)

2-BYR003.35 (2/12)

2-BYR021.58 (2/13)

The segment length was corrected during the 2008 cycle.

---

Byrd Creek

**Recreation**

Estuary  
(Sq. Miles)

Reservoir  
(Acres)

River  
(Miles)

Escherichia coli - Total Impaired Size by Water Type:

**18.83**

---

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H34R-02-BAC**      **Little Byrd Creek**

Location: Segment comprises all of Little Byrd Creek, from its headwaters to its mouth at Byrd Creek.

City / County: Goochland Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

During the 2008 cycle, Little Byrd Creek was assessed as impaired of the Recreation Use due to E. coli violation rates of 2/11 at the Route 667 bridge (2-LTP002.00) and 4/12 at the Route 610 bridge (2-LTP004.81).

Little Byrd Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>8.20</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H34R-02-BEN**      **Little Byrd Creek**

Location: Segment comprises all of Little Byrd Creek, from its headwaters to its mouth at Byrd Creek.

City / County: Goochland Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

During the 2008 cycle, Little Byrd Creek was assessed as impaired of the Aquatic Life Use due to an impaired benthic community at freshwater probabilistic monitoring station 2-LTP002.69.

Little Byrd Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			<b>8.20</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H34R-03-BAC**      **Venable Creek**

Location: Venable Creek from its headwaters to its mouth at Byrd Creek.

City / County: Fluvanna Co.      Louisa Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

During the 2008 cycle, Venable Creek was assessed as impaired of the Recreation Use due to an E. coli violation rate of 3/12 at the Route 601 bridge (2-VNB001.89).

Venable Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>7.11</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H34R-04-BAC**      **Phils Creek**

Location: Phils Creek from its headwaters to its mouth at Byrd Creek.

City / County: Fluvanna Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

During the 2008 cycle, Phils Creek was assessed as impaired of the Recreation Use due to an E. coli violation rate of 3/12 at the Route 601 bridge (2-PHL001.46).

Phils Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>6.38</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H34R-05-BAC**      **Mill Creek**

Location: Mills Creek from its headwaters to its mouth at Little Byrd Creek.

City / County: Goochland Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

During the 2008 cycle, Mills Creek was assessed as impaired of the Recreation Use due to an E. coli violation rate of 5/12 at the Route 609 bridge (2-MML001.31).

Mill Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>5.82</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H34R-06-BEN**      **Ransome Creek**

Location: Ransome Creek from its headwaters to its mouth at Little Byrd Creek.

City / County: Goochland Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

During the 2008 cycle, Ransome Creek was assessed as impaired of the Aquatic Life Use due to impairment of the benthic community at freshwater probabilistic monitoring station (2-RSM001.88).

Ransome Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			<b>3.26</b>

Sources:

Source Unknown



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H35R-01-BAC** Willis River

Location: Willis River from its headwaters to Tongue Quarter Creek

City / County: Buckingham Co.

Use(s): Recreation

Cause(s) /

VA Category: Fecal Coliform / 4A

Station ID: 2-WLS055.54 1/1 violation rate for fecal coliform & 2-WLS057.34 1/1 violation rate for fecal coliform

No New Data for 2008

Willis River TMDL Completed 5/31/02

Willis River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Fecal Coliform - Total Impaired Size by Water Type:			<b>11.45</b>

Sources:

Non-Point Source

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H35R-01-DO** Willis River

Location: Willis River from its confluence with Tongue Quarter Creek to its confluence with the Little Willis River

City / County: Cumberland Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Oxygen, Dissolved / 5A

Station ID: 2-WLS042.78 2/9 violations for dissolved oxygen

Willis River	Estuary	Reservoir	River
<b>Aquatic Life</b>	(Sq. Miles)	(Acres)	(Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>9.93</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H35R-02-BAC** Willis River, Unnamed Tributary

Location: Unnamed Tributary to the Willis River near Route 638.

City / County: Buckingham Co.

Use(s): Recreation

Cause(s) /  
VA Category: Fecal Coliform / 4A

Station ID: 2-XQM000.03 1/1 violation rate for fecal coliform  
No New Data for 2008

Willis River, Unnamed Tributary	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Fecal Coliform - Total Impaired Size by Water Type:			<b>1.71</b>

Sources:

Non-Point Source

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H35R-02-DO** Willis River, Unnamed Tributary

Location: Unnamed Tributary to the Willis River near Route 638.

City / County: Buckingham Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Oxygen, Dissolved / 5A

Station ID: 2-XQM000.03 0/1 violation rate for dissolved oxygen  
No New Data for 2008

Willis River, Unnamed Tributary	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>1.71</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H35R-03-BAC** Little Willis River

Location: Little Willis River from Perkins Creek to its mouth on the Willis River

City / County: Buckingham Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

Station ID: 2-LWW004.14 2/8/ violation rate for e coli

Little Willis River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>5.98</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H36L-01-DO**      **Bear Creek Lake**

Location: Bear Creek Lake from its impounding structure to its backwaters at Bear Creek Lake State Park

City / County: Cumberland Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Oxygen, Dissolved / 5A

Station ID: 2-BRC001.55 26/45 violation rate for dissolved oxygen. All DO samples were assessed since lake is not listed in regulation.

Bear Creek Lake	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>43.11</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H36R-01-BAC** Willis River

Location: Willis River from its confluence with Buffalo Creek to its confluence with Randolph Creek

City / County: Cumberland Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 4A

Station ID: 2-WLS021.48 2/9 violation rate for e coli & 2-WLS030.32 2/12 violation rate for e coli  
Approved TMDL - Willis River Bacteria TMDL Completed 5/31/02

Willis River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>14.55</b>

Sources:

Non-Point Source

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H36R-01-BEN**      **Willis River**

Location: Willis River from its confluence with Buffalo River to its confluence with Randolph Creek

City / County: Cumberland Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID: 2-WLS024.61 Impaired Benthic Assessment

Willis River	Estuary	Reservoir	River
<b>Aquatic Life</b>	(Sq. Miles)	(Acres)	(Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			<b>14.55</b>

Sources:

Source Unknown



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H36R-02-BAC**      **Randolph Creek**

Location: Randolph Creek from its headwaters to the backwaters of Sports Lake

City / County: Buckingham Co.      Cumberland Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 4A

Station ID: 2-RND004.39 2/12 violation rate for e coli  
Willis River TMDL Completed 5/31/02

Randolph Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>11.65</b>

Sources:

Non-Point Source

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H36R-02-BEN**      **Randolph Creek**

Location: Randolph Creek from its headwaters to the backwaters of Sports Lake

City / County: Buckingham Co.      Cumberland Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID: 2-RND003.57 Impaired Benthic Assessment - Habitat Assessment indicates sediment impacts

Randolph Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			<b>11.65</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H36R-03-BAC**      **Buffalo Creek**

Location: Buffalo Creek from its headwaters to its mouth on the Willis River

City / County: Buckingham Co.      Cumberland Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

Station ID: 2-BFC001.11 3/9 violation rate for e coli

Buffalo Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>6.81</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H37R-01-BAC**

**Big Lickinghole, Little Lickinghole, & White Hall Creeks**

Location: The mainstems of Big Lickinghole Creek, Little Lickinghole Creek, and White Hall Creek.

City / County: Goochland Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A

The creeks were initially considered impaired of the Recreation use support goals during the 2002 cycle based on water quality monitoring performed at the confluence of Big Lickinghole Creek and Little Lickinghole Creek (2-BLG002.60). The fecal coliform violation rate was 2/8 in 2000-2001.

Monitoring was switched to E. coli in 2003, but the violation rate was insufficient for assessment (1/9) during the 2006 cycle.

During the 2008 cycle, TMDL monitoring for E. coli was conducted throughout the watershed. Although several stations on the creeks had acceptable violation rates, including the original listing station 2-BLG002.60 which had have a violation rate of 2/23, the original segmentation was maintained. The impairment converted to E. coli. The following are the violation rates on the streams.

2-BLG002.60 - 2/23  
2-BLG006.41 - 3/12 (IM)  
2-BLG008.60 - 1/12  
2-BLG011.41 - 0/1  
2-BLG012.33 - 0/12  
2-LIH005.28 - 1/12  
2-WHC000.46 - 2/12 (IM)

In the 2008 cycle, it was determined that a portion of Little Lickinghole Creek that had been included in the original impairment is actually called White Hall Creek. Since a TMDL station on White Hall Creek shows impairment, the stream will continue to be included in the segment.

Big Lickinghole, Little Lickinghole, & White Hall Creeks

**Recreation**

Estuary  
(Sq. Miles)

Reservoir  
(Acres)

River  
(Miles)

Escherichia coli - Total Impaired Size by Water Type:

**29.42**

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H37R-02-BAC** Tarred Rat Creek

Location: The mainstem of Tarred Rat Creek.

City / County: Goochland Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

During the 2008 cycle, Tarred Rat Creek was monitored for E. coli as a part of the Big Lickinghole and Little Lickinghole Creeks' TMDL. The creek was assessed as not supporting of the Recreation Use based on an E. coli violation rate of 3/11 at the Route 687 bridge (2-TRT001.23).

Tarred Rat Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>3.18</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H37R-03-DO**      **Big Lickinghole Creek**

Location: The mainstem of Big Lickinghole Creek from its headwaters downstream to the confluence with the unnamed tributary located between Routes 609 and 600.

City / County: Goochland Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Oxygen, Dissolved / 5A

During the 2008 cycle, the upstream segment of Big Lickinghole Creek was assessed as impaired of the Aquatic Life Use due to a dissolved oxygen violation rate of 5/11 at 2-BLG012.33 (the Route 609 bridge).

Big Lickinghole Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>3.41</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H38R-03-BAC** Beaverdam Creek

Location: Segment comprises all of Beaverdam Creek.

City / County: Goochland Co. Louisa Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

Beaverdam Creek was considered impaired of the Recreation Use goal based on a fecal coliform violation rate of 4/21 during 2004 at the first bridge downstream of Route 6 (2-BDC000.79). Monitoring ceased in 2001, therefore the impairment was carried over to 2006.

During the 2008 cycle, additional monitoring was conducted and the impairment converted to E. coli due to violation rates of 7/22 at 2-BDC000.79 and 2/12 at the Route 639 bridge (2-BDC003.52).

Beaverdam Creek	Estuary	Reservoir	River
Recreation	(Sq. Miles)	(Acres)	(Miles)
Escherichia coli - Total Impaired Size by Water Type:			8.67

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H38R-05-BAC**      **UT to UT to James River**

Location: Segment comprises the unnamed tributary XVV from the Four Seasons laundry lagoon discharge to the mouth

City / County: Goochland Co.

Use(s): Recreation

Cause(s) /  
VA Category: Fecal Coliform / 5A

This segment was assessed not supporting of the Recreation Use based on fecal coliform violations (2/2) in the ditch below the Four Seasons Laundry lagoon.

UT to UT to James River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Fecal Coliform - Total Impaired Size by Water Type:			<b>0.93</b>

Sources:

Industrial Point Source  
Discharge



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H38R-06-BAC** Courthouse Creek

Location: Segment comprises all of Courthouse Creek from its headwaters to the confluence with Beaverdam Creek.

City / County: Goochland Co. Louisa Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

Courthouse Creek was initially assessed as impaired of the Recreation Use in the 2006 cycle due to E. coli violations at the Route 634 bridge (2-CTS003.23.)

During the 2008 cycle, the violation rate was 3/22 at 2-CTS003.23 and 6/12 at station 2-CTS007.27, which is located at the Route 633 bridge.

Courthouse Creek	Estuary	Reservoir	River
<b>Recreation</b>	(Sq. Miles)	(Acres)	(Miles)
Escherichia coli - Total Impaired Size by Water Type:			<b>10.12</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H38R-07-DO**      **Branch Creek**

Location: Branch Creek from its headwaters to its mouth at Fine Creek.

City / County: Powhatan Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Oxygen, Dissolved / 5A

During the 2008 cycle, Branch Creek was assessed as impaired of the Aquatic Life Use due to a dissolved oxygen violation rate of 4/10 at the Route 615 bridge (2-BNH001.76).

Branch Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>5.32</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H39R-01-PH**      **Broad Branch**

Location: Broad Branch from its headwaters to the dam above Route 623.

City / County: Goochland Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 5A

In 2006, Broad Branch was assessed as not supporting the Aquatic Life Use due to three high pH violations in the summer of 2003 at 2-BOD003.31, which is located downstream of a pond draining a golf course. The TMDL is due in 2018.

Broad Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
pH - Total Impaired Size by Water Type:			<b>2.40</b>

Sources:

Non-Point Source

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H39R-02-BAC**

**Tuckahoe Creek Watershed**

Location: The Tuckahoe Creek watershed

City / County: Goochland Co.

Henrico Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A

Fecal Coliform / 4A

There have been widespread bacteria violations on separate segments within the watershed.

The "Bacteria TMDL for Tuckahoe Creek, Little Tuckahoe Creek, Anderson, Broad, Georges, and Readers Branches, and Deep Run Henrico, Goochland, and Hanover Counties, Virginia" was approved by EPA on 9/20/2004. The report allocates E. coli between nonpoint source, municipal (MS4) urban runoff, and a municipal discharger. The TMDL includes the entire watershed. All bacteria-impaired segments within the watershed are assessed as Cat. 4A. During the 2008 cycle the impairments converted to E. coli.

Tuckahoe Creek Watershed

**Recreation**

Estuary  
(Sq. Miles)

Reservoir  
(Acres)

River  
(Miles)

Escherichia coli - Total Impaired Size by Water Type:

**27.52**

Tuckahoe Creek Watershed

**Recreation**

Estuary  
(Sq. Miles)

Reservoir  
(Acres)

River  
(Miles)

Fecal Coliform - Total Impaired Size by Water Type:

**6.15**

Sources:

Discharges from Municipal  
Separate Storm Sewer  
Systems (MS4)

Industrial Point Source  
Discharge

Non-Point Source

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H39R-02-DO**      **Tuckahoe Creek Watershed**

Location: The Tuckahoe Creek watershed

City / County: Goochland Co.      Henrico Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Oxygen, Dissolved / 4C

There have been widespread dissolved oxygen violations on separate segments within the watershed.

The Tuckahoe Creek Natural Conditions Assessment report was completed in November 2005 to determine the source of the dissolved oxygen impairments. The report recommends delisting Deep Run and Little Tuckahoe Creek, reclassifying Tuckahoe Creek from Little Tuckahoe Creek to its mainstem as Class VII waters due to swamp conditions, and assessing multiple streams within the watershed as Category 4C waters due to natural low flow conditions. A portion of Tuckahoe Creek was delisted in the 2006 cycle due to acceptable dissolved oxygen violation rates.

Tuckahoe Creek Watershed	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>29.10</b>

Sources:

Natural Conditions - Water  
Quality Standards Use  
Attainability Analyses  
Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H39R-03-PH**      **UT to Tuckahoe Creek**

Location: Headwaters to mouth at Tuckahoe Creek.

City / County: Goochland Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 5C

During the 2006 cycle, the segment was assessed as impaired of the Aquatic Life use due to a pH violation rate of 2/13 at 2-XUT000.62, which is located at Lower Tuckahoe Road. The violations were acidic during the winter and spring months. The TMDL is due in 2018.

UT to Tuckahoe Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
pH - Total Impaired Size by Water Type:			<b>1.80</b>

Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H39R-05-BAC** Powwhite Creek

Location: Powwhite Creek from its headwaters to its mouth at the James River.

City / County: Chesterfield Co. Richmond City

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

Powwhite Creek was initially assessed as not supporting of the Recreation use goal during the 2002 cycle based on fecal coliform standard violations at the Route 635 (Forest Hill Avenue) bridge (2-PWT000.57.)

During the 2008 cycle, the WQS converted to E. coli. The segment remains impaired due to the following violation rates:

- 2-PWT000.57 - 2/13
- 2-PWT006.02 - 2/12
- 2-PWT007.20 - 2/12

The original TMDL due date is maintained.

Powwhite Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>8.13</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H39R-05-BEN** Powwhite Creek

Location: Powwhite Creek from its headwaters to its mouth at the James River.

City / County: Chesterfield Co. Richmond City

Use(s): Aquatic Life

Cause(s) /  
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

During the 2008 cycle, Powwhite Creek was assessed as not supporting of the Aquatic Life use goal due to impairment of the benthic community at station 2-PWT001.97, which is a freshwater probabilistic monitoring station.

Powwhite Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			<b>8.13</b>

Sources:

Source Unknown



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

---

## James River Basin

Cause Group Code **H39R-06-BAC**

### Reedy Creek

Location: Segment comprises Reedy Creek from its headwaters to its mouth at the James River.

City / County: Richmond City

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A

Reedy Creek was initially listed as threatened of the Recreation Use during the year 1998 cycle due to fecal coliform violations. The segment was downgraded to impaired in the year 2002 assessment.

During the 2006 cycle, the fecal coliform violation rate on Riverside Drive in the City of Richmond (2-RDD000.19) was acceptable (0/6), however the E. coli violation rate was 2/8. The impairment was converted to E. coli, but the original TMDL due date was maintained.

During the 2008 cycle additional E. coli monitoring was conducted in preparation for the TMDL. The segment remained impaired with the following violation rates:

2-RDD000.19 - 7/29

2-RDD000.99 - 5/12

2-RDD001.57 - 10/12

2-RDD002.61 - 5/11

2-RDD003.61 - 5/11

---

Reedy Creek

**Recreation**

Estuary  
(Sq. Miles)

Reservoir  
(Acres)

River  
(Miles)

Escherichia coli - Total Impaired Size by Water Type:

**3.69**

---

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H39R-06-DO**      **Reedy Creek**

Location: Segment comprises Reedy Creek from its headwaters to its mouth at the James River.

City / County: Richmond City

Use(s): Aquatic Life

Cause(s) /  
VA Category: Oxygen, Dissolved / 5A

During the 2008 cycle Reedy Creek was assessed as not supporting the Aquatic Life Use due to dissolved oxygen violation rates of 3/12 at the 44th Street bridge and 2/11 at the Deter Road bridge, 2-RDD001.57 and 2-RDD003.61, respectively.

Reedy Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>3.69</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H39R-08-BAC** James River

Location: Segment begins at the Boulevard Bridge at river mile 116.30 and extends downstream to the fall line of the James River.

City / County: Richmond City

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

The James River was initially assessed not supporting of the Recreation use support goal in 1998 based on the results of a summer special study in the fall zone. The special study was designed to monitor the effects of summertime rain and combined sewer overflow (CSO) events on water quality in the James River and to monitor the effects of Richmond's CSO abatement efforts. The special study data used representative conditions before completion of CSO abatement projects.

The segment was extended upstream from the 1998 cycle to the Boulevard Bridge during the 2002 assessment. The TMDL for the original portion (Boulevard Bridge to Fall Line) is due in 2010, but the TMDL for the upstream portion is not due until 2014. During the 2006 cycle, the area above Boulevard Bridge had an acceptable E. coli instantaneous violation rate of 0/16 (2-JMS115.29), however there was a violation of the monthly geometric mean in July 2003. Typically, one violation would result in an assessment of fully supporting with observed effects, however since the area was previously impaired, the segment was not delisted.

During the 2008 cycle, the E. coli geometric mean violation rate at 2-JMS115.29 fell to 0/9 and there were zero instantaneous violations in 42 samples, therefore the extended upstream portion from the Williams Island dam downstream to the Boulevard Bridge will be delisted and the impairment will return to its original size.

James River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			2.99

Sources:

Combined Sewer Overflows Non-Point Source

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H39R-09-BEN**      **James River**

Location: Segment begins at the Boulevard Bridge and extends downstream to the fall line of the James River.

City / County: Richmond City

Use(s): Aquatic Life

Cause(s) /  
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The James River was assessed not supporting of the Aquatic Life use support goal in 1996 based on the results of biological (benthic) monitoring at station 2-JMS110.34 and 2-JMS110.44, which indicated moderately impaired benthic communities when compared to the control station at 2-JMS115.29.

TMDL monitoring during the 2008 cycle shows that station 2-JMS110.44 (north bank) is fully supporting the use, however station 2-JMS110.34 (south bank) remains impaired.

James River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			<b>2.99</b>

Sources:

Combined Sewer Overflows      Non-Point Source      Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H39R-09-DO**      **James River**

Location: Segment begins at the Boulevard Bridge and extends downstream to the fall line of the James River.

City / County: Richmond City

Use(s): Aquatic Life

Cause(s) /  
VA Category: Oxygen, Dissolved / 5A

In 2002, the James River from the Boulevard Bridge downstream to the fall line was assessed as not supporting the Aquatic Life Use because stations 2-JMS112.37 and 2-JMS111.48, which were located below CSOs, had exceedances of the dissolved oxygen violation rate. The DO TMDL is due in 2014.

James River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>2.99</b>

Sources:

Combined Sewer Overflows      Non-Point Source

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H39R-10-BAC**      **Bernards Creek**

Location: The mainstem of Bernards Creek.

City / County: Chesterfield Co.      Powhatan Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

Bernards Creek was initially assessed as impaired of the Recreation Use during the 2004 cycle based on fecal coliform violations at the Route 711 bridge (2-BOR001.73).

During the 2008 cycle E. coli monitoring at 2-BOR001.73 was acceptable (1/11), however monitoring at the Route 607 bridge had a violation rate of 2/12, therefore the impairment was converted to E. coli. The original TMDL due date is maintained.

Bernards Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>6.95</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H39R-13-BAC**      **Genito Creek**

Location: Genito Creek from its headwaters to its mouth at the James River.

City / County: Goochland Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

During the 2008 cycle, Genito Creek was assessed as not supporting of the Recreation Use due to an E. coli violation rate of 2/10 at the Route 6 bridge (2-GEN000.69).

Genito Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>6.71</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H39R-13-BEN**      **Stony Run**

Location: Stony Run from its headwaters to the extent of backwater at the pond.

City / County: Henrico Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

During the 2008 cycle the segment was assessed as impaired of the Aquatic Life Use due to impairment of the benthic community at 2-SNJ001.88 (downstream of Church Road).

Stony Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			<b>1.02</b>

Sources:

Non-Point Source      Source Unknown



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H39R-14-BEN**      **Jones Creek**

Location: Jones Creek from the dam of the upstream pond downstream to its mouth at the extent of backwater of Woodberry Pond.

City / County: Powhatan Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

During the 2008 cycle, Jones Creek was assessed as impaired of the Aquatic Life Use due to impairment of the benthic community at freshwater probabilistic monitoring station 2-JOH004.23.

Jones Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			<b>7.52</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **H39R-15-BEN**      **Stony Run, UT (XYT)**

Location: The unnamed tributary from its headwaters to its mouth at Stony Run.

City / County: Henrico Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

During the 2008 cycle the segment was assessed as impaired of the Aquatic Life Use due to impairment of the benthic communities at stations 2-XYT000.04 and 2-XYT000.29, which were located downstream and upstream of the Barrington pipeline spill

Stony Run, UT (XYT)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			<b>1.04</b>

Sources:

Non-Point Source      Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **I01R-01-TEMP**      **Jackson River**

Location: Jackson River from its confluence with Muddy Run downstream to the upper end of Lake Moomaw. (Start Mile: 68 End Mile: 56.81 Total Impaired Size: 11.19 Miles)

City / County: Bath Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Temperature, water / 5C

This segment is impaired due to violations of the temperature WQS at station: 2-JKS058.60 (7 violations of 38 samples for temperature). Initial Listing Date: 2004. This impairment is believed to be natural.

Jackson River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Temperature, water - Total Impaired Size by Water Type:			<b>11.20</b>

Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **I01R-02-TEMP**      **Bolar Run**

Location: Bolar Run from the headwaters downstream to its confluence with the Jackson River. (Start Mile: 6.39 End Mile: 0.00 Total Impaired Size: 6.39 Miles)

City / County: Bath Co.      Highland Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Temperature, water / 5A

This segment is impaired due to violations of the temperature WQS at station: 2-BOL000.97 (3 violations of 11 samples for temperature). Initial Listing Date: 2006.

Bolar Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Temperature, water - Total Impaired Size by Water Type:			<b>6.39</b>

Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **I01R-03-BAC**      **Jackson River**

Location: Jackson River from the headwaters downstream to its confluence with Muddy Run. (Start Mile: 96.37 End Mile: 68 Total Impaired Size: 28.37 Miles)

City / County: Bath Co.      Highland Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at stations: 2-JKS086.01 (2 violations of 9 samples for e-coli); 2-JKS090.90 (3 violations of 8 samples for e-coli) and 2-JKS093.96 (3 violations of 8 samples for e-coli). Initial Listing Date: 2008.

Jackson River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>28.37</b>

Sources:

Non-Point Source      Wildlife Other than  
Waterfowl

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **I04R-01-BAC**      **Falling Spring**

Location: Falling Spring Creek mainstem from its mouth to confluence of an unnamed tributary located at 37°52'48" / 79°54'52".

City / County: Alleghany Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

Station 2-FAS001.08 (Rt. 640 Bridge at Falling Spring Community) reports two Escherichia coli (E.coli) exceedences of the 235 cfu/100 ml instantaneous criterion from seven samples. The exceeding values are 250 and 580 cfu/100 ml. This 2008 initial 303(d) Listing is for 4.77 miles in Alleghany County.

Falling Spring	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>4.77</b>

Sources:

Livestock (Grazing or Feeding Operations)	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Unspecified Domestic Waste
---	--	----------------------------

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **I05R-01-TEMP** Cedar Creek

Location: Cedar Creek from its confluence with Hot Springs Run downstream to its confluence with the Jackson River. (Start Mile: 3.36  
End Mile: 0.00 Total Impaired Size: 3.36 Miles)

City / County: Alleghany Co. Bath Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Temperature, water / 4C

This segment is impaired due to violations of the temperature WQS at station: 2-CRE002.37 (2 violations of 17 samples for temperature). The DGIF has determined these waters are correctly classified as Class VI - Natural Trout waters by letter dated 9/07/2005. These waters are assessed based on the upstream station 2-CRE002.37. DGIF finds this station is improper to assess these Class VI waters via temperature as it is located upstream of the series of springs noted as the upstream end of the Class VI waters by DGIF. However the existing WQS Class VI criterion of 20°C is assessed based on station 2-CRE002.37 until a revised WQS Class designation is promulgated. The stream classification of these waters will be considered during the next Triennial Review of Water Quality Standards.

Cedar Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Temperature, water - Total Impaired Size by Water Type:			3.36

Sources:

Natural Conditions - Water  
Quality Standards Use  
Attainability Analyses  
Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **I05R-02-BAC** Cedar Creek

Location: Cedar Creek from its confluence with Hot Springs Run downstream to its confluence with the Jackson River. (Start Mile: 3.36  
End Mile: 0.00 Total Impaired Size: 3.36 Miles)

City / County: Alleghany Co. Bath Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A Fecal Coliform / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 2-CRE002.37 (2 violations of 11 samples for e-coli). Initial Listing Date: 2006.

Cedar Creek	Estuary	Reservoir	River
<b>Recreation</b>	(Sq. Miles)	(Acres)	(Miles)
Escherichia coli - Total Impaired Size by Water Type:			<b>3.36</b>
Cedar Creek	Estuary	Reservoir	River
<b>Recreation</b>	(Sq. Miles)	(Acres)	(Miles)
Fecal Coliform - Total Impaired Size by Water Type:			<b>3.36</b>

Sources:

Livestock (Grazing or Feeding Operations)	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Unspecified Domestic Waste	Wastes from Pets
Wildlife Other than Waterfowl			



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **I06R-01-TEMP**      **Sweet Springs Creek**

Location: Sweet Springs Creek mainstem from its confluence with Dunlap Creek to its headwaters.

City / County: Alleghany Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Temperature, water / 5C

Station 2-SSC000.25 (Route 603 Bridge at Earlehurst) There are no additional data beyond the 2006 IR. The 2006 Integrated Report (IR) found temperature exceeds the WQS 21°C criterion for stockable trout waters in two of 18 observations with data extending through 2003, believed naturally occurring. The two exceedences occur on 8/8/00 at 22.9 °C and 8/05/02 at 22.7 °C as in 2004. The 2004 IR reports temperature exceeds the 21°C criterion in three of 18 observations, believed naturally occurring. The maximum exceedence occurred on 7/6/99 at 24 °C. The remaining two exceedences occur on 8/8/00 at 22.9 °C and 8/05/02 at 22.7 °C. Each year experienced low stream flow and/or drought conditions. Temperature data within the 2008 data window are one excursion of the criterion from 14 measurements on 8/05/02. The 2002 2.68 mile 303(d) Listing continues.

Sweet Springs Creek	Estuary	Reservoir	River
Aquatic Life	(Sq. Miles)	(Acres)	(Miles)
Temperature, water - Total Impaired Size by Water Type:			2.68

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **I07R-01-BAC**      **Dunlap Creek**

Location: Dunlap Creek mainstem waters from the confluence of Ogle Creek downstream to the Dunlap Creek mouth on the Jackson River.

City / County: Alleghany Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

2-DNP001.98- (Bridge above Boys Home) The 2008 Integrated Report (IR) finds two of 11 Escherichia coli (E.coli) samples exceed the 235 cfu/100 ml instantaneous criterion for this 2006 6.31 mile 303(d) Listed stream. Each exceeding value is 320 and 400 cfu/100 ml. Escherichia coli (E.coli) replaces fecal coliform bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

Dunlap Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>6.31</b>

Sources:

Livestock (Grazing or Feeding Operations)	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Unspecified Domestic Waste	Wildlife Other than Waterfowl
---	--	----------------------------	-------------------------------

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **I09R-01-BAC**      **Smith Creek**

Location: Smith Creek mainstem from its mouth on the Jackson River upstream 1.20 miles; the beginning of the WQS natural trout section.

City / County: Alleghany Co.

Use(s): Recreation

Cause(s) /  
VA Category: Fecal Coliform / 5A

2-SMH000.08 (Ridgeway Street - Clifton Forge) There are no additional data beyond the 2006 Integrated Report (IR). The 2004 303(d) Listed waters (1.17 miles) remain. Fecal coliform bacteria (FC) exceeds the 400 cfu/100 ml instantaneous criterion in eight of 16 observations. FC exceeding values range from 500 to 3500 cfu/100 ml. The 2008 data window produces the same end results where FC exceeds the 400 cfu/100 ml instantaneous criterion in seven of 15 observations with the same range of exceedence. Escherichia coli (E.coli) will replace fecal coliform bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

Smith Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			1.17

Sources:

Municipal (Urbanized High Density Area)	Sanitary Sewer Overflows (Collection System Failures)	Unspecified Domestic Waste	Wastes from Pets
Wildlife Other than Waterfowl			

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **I09R-01-BEN**

**Jackson River**

Location: Jackson River mainstem from the Westvaco main processing outfall downstream to the confluence of the Jackson and Cowpasture Rivers.

City / County: Alleghany Co.

Covington City

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The original 1996 VAW-I04R and VAW-I09R impairments were combined into one in 2002.

2008 Assessment station locations are:

2-JKS000.38 - Rt. 727 Bridge - near Iron Gate (I09R)

2-JKS006.67 - Low Water Bridge - near Dabney Lancaster CC (I09R)

2-JKS013.29 - Off Rt. 696 above Lowmoor (I09R)

2-JKS018.68 - Rt. 18 Bridge at Covington (I09R)

2-JKS023.61 - City Park - Covington at gage (I09R)

General Standard (Benthic):

2-JKS023.61-Bio 'IM'; Seven Virginia Stream Condition Index (VSCI) surveys (2001 - 2006); lowest score spring 2001 31.03 and highest score 52.38 spring 2004. The spring 2006 score is 34.36. The invertebrate community at this site has been dominated by taxa that are tolerant of environments with low dissolved oxygen and high levels of organic pollution (i.e. Tubificidae, Planariidae, Chironomidae, and Simuliidae). The VSCI scores display a negative alteration in the taxonomic diversity and pollution sensitivity of the benthic community. Elevated total phosphorus levels continue where 17 of 51 samples are above 0.20 mg/l - 'Observed Effect'. The maximum value is 1.40 mg/l and the lowest 0.23 mg/l. Trend analysis reveals a significant declining trend in total phosphorus.

2-JKS018.68- Bio 'IM'- Two VSCI scores from the fall of 2004 (67.3) and 2006 (51.8). The benthic community of the Jackson River shows some improvement at this station relative to the station at City Park (2-JKS023.61). However, the benthic community remains dominated by pollution tolerant taxa. 2008 TP results find no elevated TP levels above 0.20 mg/l from nine observations. The 2006 IR reported six of 18 observations greater than 0.20 mg/l. TP excursions ranged from 0.30 to 0.70 mg/l.

2-JKS013.29-Bio 'IM' Four VSCI survey scores result in a impaired condition with the lowest at 38.6 fall 2004 and the highest at 61.3 fall 2006. Lower VSCI scores are the result of the low taxonomic diversity and lack of pollution sensitive taxa. The 2006 sample showed an increase in pollution sensitive taxa and a decrease in pollution tolerant taxa. The Low Moor station has consistently had lower assessment scores and higher numbers of pollution tolerant organisms than at 2-JKS018.68. Elevated TP levels above 0.20 mg/l are found in six of 12 samples with excessive values ranging from 0.29 to 1.41 mg/l- 'Observed Effect'.

2-JKS006.67- 2-JKS006.67- Bio 'IM' Four VSCI surveys showing overall impairment with an average score of 52.8. There have been slight differences in scores over the six-year period. Spring scores have been lower than fall scores. Lower VSCI scores are the result of the decrease in pollution sensitive taxa. Elevated TP concentrations greater than 0.20 mg/l are found in eight of 21 observations ranging from 0.21 to 0.50 mg/l- 'Observed Effect'.

2-JKS000.38- Elevated TP observations greater than 0.20 mg/l are recorded in 15 of 50 observations- 'Observed Effect'. Values above 0.20 mg/l range from 0.22 to 1.24 mg/l. Trend analysis reveals significant declining trends in bacteria, total phosphorus and nitrogen.

The 1996 originally 303(d) Listed impairments to the benthic community are believed due to nutrient and organic enrichment (deposition) for 24.19 miles. Based on ambient station solids data, the nutrients and organics are mainly dissolved.

Jackson River

**Aquatic Life**

Estuary  
(Sq. Miles)

Reservoir  
(Acres)

River  
(Miles)

Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:

**24.19**

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

---

## James River Basin

Sources:

Industrial Point Source Discharge	Municipal (Urbanized High Density Area)	Municipal Point Source Discharges
--------------------------------------	--	--------------------------------------

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **I09R-01-DO**

**Jackson River**

Location: Jackson River mainstem from the Westvaco main processing outfall downstream to just above the Lowmoor community.

City / County: Alleghany Co.

Covington City

Use(s): Aquatic Life

Cause(s) /

VA Category: Oxygen, Dissolved / 5A

The original 1998 IDs, VAW-I04R and VAW-I09R, 1996 303(d) Listed dissolved oxygen impairment was combined into one in 2002 for 11.19 miles.

2008 Assessment station locations are:

2-JKS000.38 - Rt. 727 Bridge - near Iron Gate (I09R)

2-JKS013.29 - Off Rt. 696 above Lowmoor (I09R)

2-JKS018.68 - Rt. 18 Bridge at Covington (I09R)

2-JKS023.61 - City Park - Covington at gage (I09R)

Diurnal swings in dissolved oxygen cause nonsupport of the aquatic life use for a total of 11.19 miles extending from river mile 24.21 (I04R- 0.46 miles) to 13.02 (I09R- 10.73 miles) (37°46'49.59 / 079°55'40.00").

2-JKS023.61- DO measurements within the ambient monitoring program find no excursions of the DO minimum criterion of 4 mg/l from 52 measurements. However diurnal effects have been noted in previous assessments. The 2004 IR reports DO exceeds the WQS minimum of 4.0 mg/l in six of 26 1998 special study observations as well as those described below at 2-JKS022.15. The DO impairment remains. Elevated total phosphorus levels continue where 17 of 51 samples are above 0.20 mg/l - 'Observed Effect'. The maximum value is 1.40 mg/l and the lowest 0.23 mg/l. Trend analysis reveals a significant declining trend in total phosphorus.

2-JKS022.15- 2004 IR reports 1998 DO Recordings find 222 excursions of the minimum 4.0 mg/l WQS criterion from 481 measurements; Diurnal affects are noted.

2-JKS018.68- DO data within the 2008 assessment data window find no excursions of the 4.0 mg/l minimum criterion from 10 measurements. However diurnal effects have been noted in previous assessments. The DO impairment remains for final determination of Use support via the TMDL Study. 2008 TP results find no elevated TP levels above 0.20 mg/l from nine observations. The 2006 IR reported six of 18 observations greater than 0.20 mg/l. TP excursions ranged from 0.30 to 0.70 mg/l.

2-JKS013.29- Ambient data within the 2008 assessment data window report no excursions of the WQS criteria for DO. However diurnal effects have been noted in previous assessments. Elevated TP above 0.20 mg/l are found in six of 12 samples with excessive values ranging from 0.29 to 1.41 mg/l- 'Observed Effect'.

Jackson River

**Aquatic Life**

Estuary  
(Sq. Miles)

Reservoir  
(Acres)

River  
(Miles)

Oxygen, Dissolved - Total Impaired Size by Water Type:

**11.19**

### Sources:

Industrial Point Source  
Discharge

Municipal Point Source  
Discharges

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **I09R-01-PCB**      **Jackson River**

Location: The Jackson River from the Covington water intake downstream to just above the Lowmoor community.

City / County: Alleghany Co.      Covington City

Use(s): Fish Consumption

Cause(s) /  
VA Category: PCB in Fish Tissue / 5A

The 2008 Integrated Report produces the initial 303(d) Listing of these waters for a total of 12.43 miles.

2-JKS023.88 (Covington City Park) 2005 Fish tissue collections find exceedences above the WQS PCB TV of 54 ppb (VDH 50) from a single species. Two carp are found with tissue values of 66.4 and 71.3 ppb.

Jackson River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Fish Consumption</b>			
PCB in Fish Tissue - Total Impaired Size by Water Type:			<b>12.43</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **I09R-02-BAC**      **Jackson River**

Location: Jackson River mainstem from the Covington water intake downstream to just below the Lexington Avenue Bridge.

City / County: Alleghany Co.      Covington City

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

These 3.36 mile waters were 1998 303(d) listed for fecal coliform (FC) bacteria and proactively delisted for bacteria October 2005 as approved by the US EPA (Fed. ID - NA) where only one exceedence from 24 observations are reported via the 2006 Integrated Report (IR) for Escherichia coli (E. coli) bacteria. The bacteria impairment returns with the 2008 IR.

WQS require via [9 VAC 25-260-170.A.1. Bacteria; other waters] after collection of 12 Escherichia coli (E.coli) samples only E.coli be assessed for use support in fresh water streams. The recreational use impairment is now based on E.coli.

2-JKS023.61 (Covington City Park) Four of 27 E. coli observations are in excess of the 235 cfu/100 ml instantaneous criterion. Exceeding values range from 250 to 1400 cfu/100 ml.

Jackson River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>3.36</b>

Sources:

Municipal (Urbanized High Density Area)	Sanitary Sewer Overflows (Collection System Failures)	Urban Runoff/Storm Sewers
---	---	---------------------------



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **I09R-02-TEMP**      **Wilson Creek**

Location: Wilson Creek from the headwaters downstream to the upper end of Douthat Lake pool. (Start Mile: 13.78 End Mile: 7.26  
Total Impaired Size: 6.52 Miles)

City / County: Bath Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Temperature, water / 5C

This segment is considered impaired due to violations of the temperature WQS. This is carried from the 2006 assessment as no new data are available in the 2008 cycle as well and is believed to be natural. Initial Listing Date: 2004.

Wilson Creek	Estuary	Reservoir	River
<b>Aquatic Life</b>	(Sq. Miles)	(Acres)	(Miles)
Temperature, water - Total Impaired Size by Water Type:			<b>6.52</b>

Sources:

Drought-related Impacts      Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **I10R-01-BAC**      **Potts Creek**

Location: Potts Creek mainstem from the mouth of Paint Bank Branch downstream to the Hamilton Branch confluence on Potts Creek.

City / County: Alleghany Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

2-POT030.66- (Above Rt. 18 Bridge near Campsite) The 2006 initial 303(d) Listing of these 9.51 mile waters reports Escherichia coli (E.coli) exceeds the 235 cfu/100 ml instantaneous criterion in two of eight samples at 380 and greater than 2000 cfu/100 ml. 2008 E.coli results find exceedences of the criterion in two of 11 samples with the same exceedence range as 2006.

Potts Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>9.51</b>

Sources:

Livestock (Grazing or Feeding Operations)	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Unspecified Domestic Waste	Wildlife Other than Waterfowl
---	--	----------------------------	-------------------------------

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **I10R-01-PH**      **Potts Creek**

Location: Potts Creek mainstem from the confluence of Paint Bank Branch downstream to the mouth of Hamilton Branch on Potts Creek.

City / County: Alleghany Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 5C

2-POT030.66- (Above the Route 18 Bridge near campsite). The 2004 Integrated Report (IR) records the initial 303(d) Listing of these waters where two of four pH measurements exceed the alkaline criterion of 9.0 SU WQS Criterion at 9.1 and 9.2 SU. The 2006 IR records one of 10 measurements exceeding the alkaline criterion at 9.2 SU. The 2008 IR records the same excursion as 2006 from 13 pH measurements. The impaired 9.51 mile waters remain for pH alkaline conditions as data are insufficient for delisting. Potts Creek has historically had pH measurements in the range of 8.5 to 9.5. The high (alkaline) pH does not appear to have an adverse effect on the benthic community.

Potts Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			9.51

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **I10R-01-TEMP**      **Potts Creek**

Location: Potts Creek from the Paint Bank Branch confluence downstream to the Alleghany / Craig County Line.

City / County: Alleghany Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Temperature, water / 5C

2-POT030.66- (Above the Route 18 Bridge near campsite). The 2008 Integrated Report (IR) reveals three of 13 temperature measurements in excess of the Class V temperature criterion of 21 °C ranging as in 2006. The 2006 IR records exceedences in three of 12 measurements. Temperature exceedences occur in July and September of 2003 and 2004 ranging from 21.7 to 23 °C.

Potts Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Temperature, water - Total Impaired Size by Water Type:			<b>5.54</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **I13R-01-BAC**      **Bullpasture River**

Location: Bullpasture River from the headwaters downstream to its confluence with the Cowpasture River. (Start Mile: 24.17 End Mile: 0.00 Total Impaired Size: 24.17 Miles)

City / County: Bath Co.      Highland Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

This segment is considered impaired due to violations of the e-coli bacteria standard at stations: 2-BLP000.79 (4 violations of 40 samples for e-coli) and 2-BLP015.32 (4 violations of 8 samples for e-coli). Initial Listing Date: 2006.

Bullpasture River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>24.17</b>

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl
-------------	------------------	-------------------------------

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **I14R-01-BEN**      **Pheasanty Run**

Location: Pheasanty Run from the Coursey Springs Fish Farm discharge downstream to its confluence with the Cowpasture River.  
(Start Mile: .44 End Mile: 0.00 Total Impaired Size: .44 Miles)

City / County: Bath Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

This segment is impaired due to a severely impaired benthic assessment in 1998. This site has not been visited since. Initial Listing Date: 1998; This impairment is included in the EPA approved TMDL for Fish Farms. Federal TMDL ID # 21069

Pheasanty Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			<b>0.44</b>

Sources:

Aquaculture (Permitted)

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **I14R-03-BEN** Panther Run

Location: Panther Run from the headwaters downstream to its confluence with Mare Run. (Start Mile: 2.11 End Mile: 0.00 Total Impaired Size: 2.11 Miles)

City / County: Bath Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 4C

This segment is impaired based on a moderately impaired benthic assessment at U.S. Forest Service site 6018 in the 2004 cycle. This impairment was deemed as natural due to drought. The impaired status carries from the 2004 cycle as no additional benthic surveys have been completed in the 2008 cycle. Initial Listing Date: 2004.

Panther Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			<b>2.11</b>

Sources:

Drought-related Impacts

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **I14R-04-PH**      **Laurel Run**

Location: Laurel Run from the headwaters downstream to its confluence with Dry Run. (Start Mile: 2.04 End Mile: 0.00 Total Impaired Size: 2.04 Miles)

City / County: Bath Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 5A

This segment is impaired due to violations of the pH WQS at station: UVA VT10 (2 violations of 12 samples for pH). Initial Listing Date 2006.

Laurel Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
pH - Total Impaired Size by Water Type:			<b>2.04</b>

Sources:

Atmospheric Deposition -  
Acidity



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **I16R-01-PH**      **Porters Mill Creek**

Location: Porters Mill Creek from the headwaters downstream to its confluence with Mill Creek. (Start Mile: 4.98 End Mile: 0.00 Total Impaired Size: 4.98 Miles)

City / County: Bath Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 5A

This segment is impaired due to violations of the pH WQS at station: UVA VT15 (10 violations of 15 samples for pH). Initial Listing Date: 2006.

Porters Mill Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
pH - Total Impaired Size by Water Type:			<b>4.98</b>

Sources:

Atmospheric Deposition -  
Acidity

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **I17R-01-BEN**      **South Fork Pads Creek**

Location: South Fork Pads Creek from the headwaters (excluding tributaries) downstream to its confluence with Pads Creek. (Start Mile: 5.36 End Mile: 0.00 Total Impaired Size: 5.36 Miles)

City / County: Bath Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Benthic-Macroinvertebrate Bioassessments / 4C

This segment is impaired due to violations of the General Standard for Benthics at station: USFS 6008 (MAIS Impaired). Initial Listing Date: 2004; This impairment has been determined to be natural.

South Fork Pads Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			<b>5.36</b>

Sources:

Drought-related Impacts

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **I18R-02-BAC**

**Mill Creek**

Location: Mill Creek mainstem from just above Rebecca Furnace downstream of Allen Creek extending on downstream to the Mill Creek mouth on the James River at Gala.

City / County: Botetourt Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A

2-MIV000.39- (Route 694 Bridge, Gala) Data within the 2008 Integrated Report (IR) data window indicate full support of the Recreational Use with no excursions of the 235 cfu/100 ml instantaneous criterion for Escherichia coli (E.coli) from nine observations. These E.coli data are insufficient to delist the impairment. The 2004 303(d) Listed 4.94 mile impairment remains due to the limited dataset. The Recreational Use remains impaired based on results from the 2004 IR where fecal coliform (FC) bacteria exceeds in three of 17 samples with exceedences ranging from 500 to 1300 cfu/100 ml above WQS instantaneous criterion of 400 cfu/100 ml. The remaining two exceedences were 500 cfu/100 ml each. Exceedences within the 2006 data window are one of seven observations with the single exceedence at 500 cfu/100 ml. Escherichia coli (E.coli) replaces fecal coliform bacteria as the indicator of Use support.

Mill Creek

**Recreation**

Estuary  
(Sq. Miles)

Reservoir  
(Acres)

River  
(Miles)

Escherichia coli - Total Impaired Size by Water Type:

**4.94**

### Sources:

Livestock (Grazing or  
Feeding Operations)

On-site Treatment Systems  
(Septic Systems and Similar  
Decentralized Systems)

Unspecified Domestic Waste

Wildlife Other than  
Waterfowl

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **I19R-01-BAC**      **Craig Creek**

Location: Craig Creek mainstem from the mouth of Turnpike Creek extending downstream to the Rt. 311 crossing located downstream of the Abbott community.

City / County: Craig Co.

Use(s): Recreation

Cause(s) /  
VA Category: Fecal Coliform / 5A

2-CRG062.29- These 2004 7.79 mile 303(d) Listed waters remain impaired for fecal coliform (FC) bacteria as there are no additional data beyond the 2006 Integrated Report (IR) and no Escherichia coli (E.coli) data to assess. Data within the 2008 window finds one excursion (1100 cfu/100 ml) of the instantaneous criterion of 400 cfu/100 ml for FC from 15 samples. The 2006 IR reports FC exceeds the instantaneous criterion in one of 21 samples. The single exceedence is 1100 cfu/100 ml. The 2004 Listing reports three of 27 samples exceeding the FC instantaneous criterion. The maximum reported is 1100 cfu/100 ml with the remaining values at 900 and 500.

Craig Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			7.79

Sources:

Livestock (Grazing or Feeding Operations)	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Unspecified Domestic Waste	Wildlife Other than Waterfowl
---	--	----------------------------	-------------------------------

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **I19R-01-BEN** Craig Creek, UT (XZQ)

Location: Unnamed Tributary (XZQ) from its headwaters downstream to its confluence with Craig Creek.

City / County: Craig Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

The 2008 IR initially lists this stream as impaired for the Aquatic Life Use for 1.06 miles due to contravention of the WQS General Standard (Benthic). US Forest Service station 6578 scores this stream 10 poor/fair using the MAIS method of benthic assessment in 2005. The Forest Service notes the stream is in a Timber Sale area.

Craig Creek, UT (XZQ)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			<b>1.06</b>

Sources:

Silviculture Harvesting

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **I20R-01-TEMP** Meadow Creek

Location: Meadow Creek mainstem from just above the Rt. 42 crossing downstream to the Meadow Creek confluence on Craig Creek.

City / County: Craig Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Temperature, water / 5C

2-MEO000.38- (Rt. 311 Bridge) Temperature data within the 2008 data window (thru 2005) find temperature excursions of the 20°C natural trout water criterion occur in three of 15 measurements. Exceedences occur in July '03 & '04 at 21.1°C and Sept. '03 at 21.2°C. The 2006 Integrated Report (IR) initially reported four temperature excursions of the Class VI 20 °C criterion from 19 measurements resulting in the 303(d) Listing. Temperature excursions occurred three times in the month of July (2000, 2003 & 2004) and September 2003. The maximum exceedence, 21.6 °C, occurred on July 10, 2000. The 2.53 mile Aquatic Life Use impairment remains.

Meadow Creek	Estuary	Reservoir	River
Aquatic Life	(Sq. Miles)	(Acres)	(Miles)
Temperature, water - Total Impaired Size by Water Type:			2.53

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **I21R-01-BAC**      **Johns Creek**

Location: Johns Creek mainstem from near Lovers Leap upstream of New Castle downstream to its confluence with Craig Creek.

City / County: Craig Co.

Use(s): Recreation

Cause(s) /  
VA Category: Fecal Coliform / 5A

The 2004 initially 303(d) Listed bacteria impairment remains. Future assessments and 303(d) Listings will replace fecal coliform (FC) with Escherichia coli (E.coli) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

2-JOB000.39- Data within the 2008 data window (thru 2006) find no excursions of the instantaneous criterion for FC or E.coli from nine observations each; as in the 2006 IR. However the 2004 IR reports FC exceeds the 400 cfu/100 ml WQS instantaneous criterion in two of 18 samples; 1500 cfu/100 ml and 600. These waters lack sufficient data to delist the 2.19 mile Recreational Use impairment. Therefore remaining 303(d) Listed for bacteria.

Johns Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Fecal Coliform - Total Impaired Size by Water Type:			<b>2.19</b>

Sources:

Municipal (Urbanized High Density Area)	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl
--	----------------------------	------------------	----------------------------------

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **I22R-01-BAC**

### Barbours Creek

Location: Barbours Creek from just downstream of the Rt. 617 and 611 junction at the mouth of Valley Branch on downstream to its mouth on Craig Creek. (New Castle Quad).

City / County: Craig Co.

Use(s): Recreation

Cause(s) /

VA Category: Fecal Coliform / 5A

The 7.08 mile bacteria impairment initially 303(d) Listed in 2004 remains. Escherichia coli (E.coli) replaces fecal coliform (FC) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

2-BAR000.60- (Rt. 614 Bridge) There are no additional data beyond the 2004 Integrated Report (IR). The 2004 IR reports the maximum FC of 1100 cfu/100 ml and a second at 500 both exceed the WQS instantaneous criterion of 400 cfu/100 ml from 18 samples- Category 5A. The 2006 IR finds no excursions of the WQS FC instantaneous criterion from nine samples. The 2008 data window finds no excursions of the aforementioned from 3 samples.

Barbours Creek

**Recreation**

Estuary  
(Sq. Miles)

Reservoir  
(Acres)

River  
(Miles)

Fecal Coliform - Total Impaired Size by Water Type:

**7.08**

#### Sources:

Livestock (Grazing or  
Feeding Operations)

On-site Treatment Systems  
(Septic Systems and Similar  
Decentralized Systems)

Unspecified Domestic Waste

Wildlife Other than  
Waterfowl



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **I22R-01-TEMP**      **Barbours Creek**

Location: Barbours Creek mainstem from the confluence of the South Prong Barbours Creek on downstream to its mouth on Craig Creek.

City / County: Craig Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Temperature, water / 5C

The 13.37 mile temperature impairment continues with the 2008 IR. The 2006 IR extended the impairment 6.32 miles (2-BAR010.10 - I23R) from the initial 2002 303(d) Listing (2-BAR000.60 - I22R).

2-BAR010.10- (Rt. 617 Bridge upstr. Picnic Area) The 2006 Integrated Report (IR) records four of 18 temperature measurements in excess of the WQS Class VI 20 °C criterion. Temperature exceedences occur in July 2000, 2003 and 2004 and the maximum exceedence occurs on September 2, 2003 at 22.9 °C. The 2008 data window finds three of 15 measurements exceeding the criterion. These excursions are believed natural due to extremely dry conditions at the time of measurement.

2-BAR000.60- There are no additional data beyond the 2004 IR. The 2004 IR finds temperature exceeds the WQS 20°C natural trout water criterion in three of 18 observations with a maximum of 22°C on 7/10/00. Each of the remaining two temperature excursions occur on 7/08/98 (20.6°C) and 7/12/99 (20.5°C) - Category 5C. The 2006 IR data window reveals one of nine temperature measurements in excess of the Class VI criterion. The 2008 data window finds no excursions from three measurements.

Barbours Creek	Estuary	Reservoir	River
Aquatic Life	(Sq. Miles)	(Acres)	(Miles)
Temperature, water - Total Impaired Size by Water Type:			13.37

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **I22R-02-BEN**      **Mill Creek**

Location: Mill Creek mainstem from its headwaters downstream to its confluence with Craig Creek.

City / County: Craig Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

A US Forest Service site 6515 located approximately 2.90 miles from the Mill Creek mouth on Craig Creek. USFS station 6514 is located approximately 1.70 miles upstream from the Mill Creek mouth. Station 6516 is located in the headwaters of Mill Creek.

MAIS survey scores within the 2008 data window:

6515- USFS MAIS survey- Bio 'UI' Two surveys, 2002 and 2005, scoring 10 and 16 respectively. 2004 assessment Single survey '98 scoring 10.

6514- USFS MAIS survey- Bio 'UI' One 2005 survey scoring 8.

Additional collections made at 6516, 6515 and 6514 outside 2004, 2006 and 2008 data windows find impairment at each site. Mill Creek assessed as a 'Water of Concern' in 2002 assessment based on these surveys. DEQ 2004 cursory site visit agrees with USFS MAIS surveys. Therefore Mill Creek was assessed impaired for General Standard - Benthic in 2004 for 5.99 miles.

Mill Creek	Estuary	Reservoir	River
<b>Aquatic Life</b>	(Sq. Miles)	(Acres)	(Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			<b>5.99</b>

Sources:

- Impacts from Abandoned  
Mine Lands (Inactive)
- Mine Tailings

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **I22R-03-BEN** Crawford Branch

Location: Crawford Branch mainstem from its headwaters downstream to its confluence with Craig Creek

City / County: Botetourt Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 4C

A US Forest Service site 6570 located approximately 0.19 miles from the Crawford Branch mouth on Craig Creek finds the benthic community moderately impaired- 'UI'. A single 1999 MAIS survey score is 11; rating Poor/Fair or moderately impaired; there are no additional data beyond the 2004 Integrated Report (IR). These data are outside both the 2006 and 2008 assessment data windows. Comments provided by the US Forest Service recommends not listing this site as drought conditions produced results indicating impairment thus Category 4C.

Crawford Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			1.76

Sources:

Drought-related Impacts

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **I22R-04-BAC** Little Patterson Creek

Location: Little Patterson Creek from just upstream of the Rt. 684 (Sugar Tree Hollow Rd.) crossing downstream to its confluence with Patterson Creek.

City / County: Botetourt Co.

Use(s): Recreation

Cause(s) /  
VA Category: Fecal Coliform / 5A

The 2004 Integrated Report (IR) initially 303(d) Listed the 3.64 mile fecal coliform (FC) bacteria impairment. Future assessments and 303(d) Listings will replace fecal coliform with Escherichia coli (E.coli) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

Station 2-LIP001.00 (Rt. 682 Bridge) The 2004 IR reports FC exceeds the 400 cfu/100 ml instantaneous criterion in two of nine samples. The two exceedences are 2800 (2001) and 2100 cfu/100 ml (2001). In both the 2006 and 2008 assessments FC exceeds in two of 12 samples with the same excursions as in previous cycles. No additional data extends into the 2008 data window. There are no E.coli data to assess.

Little Patterson Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			3.64

Sources:

Livestock (Grazing or Feeding Operations)	On-site Treatment Systems (Septic Systems and Similar Decentralized Systems)	Unspecified Domestic Waste	Wildlife Other than Waterfowl
---	--	----------------------------	-------------------------------

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **I23R-01-BEN** Cove Branch

Location: Cove Branch mainstem from its confluence with Barbours Creek upstream to its headwaters.

City / County: Craig Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 4C

The 2008 303(d) Listing of these waters occurs due to a US Forest Service 2005 MAIS survey. Station 6511 is located in the headwaters of Cove Branch approximately 4 miles from its confluence with Barbours Creek.

6511- One survey '05 (MAIS 9 PF) Lv.3. USGS 7.5 Minute Quadrangle shows the station to be located in the intermittent headwater portion of Cove Branch and may not be indicative of the perennial stream. In developing the Virginia Stream Condition Index (VSCI) investigators found the benthic community composed of different aquatic insects than that found in perennial waters. Therefore the use of the VSCI for intermittent headwater streams is discouraged as it may not be applicable. Based on this judgment the waters are categorized 4C.

Cove Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			5.74

Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **I24R-01-BAC**      **Lapsley Run**

Location: Lapsley Run from its confluence with the James River upstream to its headwaters.

City / County: Botetourt Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A

2-LAP001.20 (Rt. 726 Bridge) Escherichia coli (E.coli) exceed the WQS instantaneous criterion of 235 cfu/100 ml in three of nine samples. These excursions cause the 2008 initial 303(d) Listing of these waters for 8.40 miles. E.coli values in excess of the criterion are: 800, 420 and 250 cfu/100 ml.

Lapsley Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>8.40</b>

Sources:

Grazing in Riparian or Shoreline Zones	Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste	Wildlife Other than Waterfowl
---	--	----------------------------	----------------------------------

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **I25R-01-BAC**

**Catawba Creek**

Location: Catawba Creek mainstem from the confluence of Little Catawba Creek on Catawba Creek on downstream to the Catawba Creek confluence with the James River.

City / County: Botetourt Co.

Use(s): Recreation

Cause(s) /

VA Category: Fecal Coliform / 5A

Three Catawba Creek stations find non-supporting fecal coliform (FC) bacteria results. Future assessments and 303(d) Listings will replace fecal coliform with *Escherichia coli* (E.coli) bacteria as the indicator as per Water Quality Standards [9 VAC 25-260-170. Bacteria; other waters].

The original 2002 FC bacteria impairment was extended both upstream and downstream with the 2004 assessment. The extension downstream is from the Fincastle POTW to the Catawba Creek confluence with the James River (11.19 miles). The upstream extension is from the confluence of Little Catawba Creek downstream to the Roanoke Cement intake on Catawba Creek (1.14 miles). The original 2002 11.87 mile impairment began at the Roanoke Cement Co. water intake on Catawba Creek (37°28'12"/80°00'18") extending downstream to the Town Branch confluence with Catawba Creek (37°31'01"/79°52'45"). There are no *Escherichia coli* data available within the 2008 Data Window.

2-CAT023.83- (Rt. 779 Bridge near Gage) FC exceeds in four of 12 observations with additional data through May 2003. Each excursion is in excess of the WQS 400 cfu/100 ml instantaneous criterion. The maximum exceedence is 1900 cfu/100 ml and the minimum is 500 (2004 upstream extension). The 2006 Integrated Report (IR) finds FC exceeds in four of 12 observations. The maximum exceedence is 1900 cfu/100 ml and the minimum is 500. Exceedence range is the same as in 2004 where FC exceeds in three of nine observations.

2-CAT014.63- (Rt. 606 Bridge, Botetourt Co.) The 2008 IR finds FC exceeds in four of 14 observations with additional data through May 2003. The 2006 IR reports FC exceeds in six of 20 observations. Exceedences range from 500 to the maximum of 1300 cfu/100 ml (original 2002 303(d) Listing). FC exceeds in seven of 27 observations ranging from 500 to the maximum of 2000 cfu/100 ml in 2004.

2-CAT000.34- (Bridge near Salisbury Furnace) Three of 12 FC observations exceed the WQS instantaneous criterion with additional data through May 2003. Values exceeding WQS range from 1100 cfu/100 ml to greater than 8000 (2004 downstream extension).

Catawba Creek

**Recreation**

Estuary  
(Sq. Miles)

Reservoir  
(Acres)

River  
(Miles)

Fecal Coliform - Total Impaired Size by Water Type:

**24.20**

### Sources:

Livestock (Grazing or  
Feeding Operations)

On-site Treatment Systems  
(Septic Systems and Similar  
Decentralized Systems)

Unspecified Domestic Waste

Wastes from Pets

Wildlife Other than  
Waterfowl

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **I25R-01-BEN**      **Catawba Creek**

Location: Catawba Creek from an unnamed tributary' confluence (37°21'37" / 80°08'15") downstream to the mouth of Little Catawba Creek.

City / County: Botetourt Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

2-CAT026.55 (Off Rt. 779 North of Catawba) This 2008 initial 303(d) Listing for a 12.32 mile General Standard (Benthic) impairment is based on two 2003 Virginia Stream Condition Index (VSCI) surveys scoring spring 36.4 and fall 56.9. More taxa, including a higher percentage of mayflies were collected in the fall sample. Also, fewer midge larvae (Chironomidae) were present in the fall sample helping to improve the benthic community score. The land use adjacent to and immediately upstream of the station is open pasture. The riparian zone is severely impacted by the pastures and bank erosion exists due to cattle access as well as poor bank vegetative protection.

Catawba Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			<b>12.32</b>

Sources:

Grazing in Riparian or Shoreline Zones	Livestock (Grazing or Feeding Operations)	Loss of Riparian Habitat
---	--	--------------------------



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **I26R-01-BAC**

### Looney Creek Drainage

Location: The Looney Creek portion of the overall impairment begins at the confluence of Mill and Back Creek (37.498181 / - 79.727131) on Looney Creek northeast of Lithia, Virginia, (Montvale Quad) at river mile 2.48. The original 1998 impairment (2.48 miles) ends at the mouth of Looney Creek on the James River.

Note: Bacteria collections on Mill Creek (8.29 miles) and Ellis Run (1.60 miles) cause expansion of the original 1998 impairment to include portions of the aforementioned creeks for a total of 12.37 miles. The TMDL Study encompassed these additional drainages and are described in a separate Fact Sheet.

City / County: Botetourt Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A

The Looney Creek Bacteria TMDL Load Duration Study is complete with US EPA approval on 06/21/2004 [Fed ID: 20103] and SWCB approval on 12/02/2004 (formerly VAW-I26R-01). Fecal coliform (FC) bacteria exceedences cause the original 1998 2.48 mile recreational use impairment in Looney Creek. Escherichia coli (E.coli) replaces fecal coliform bacteria as per WQS [9 VAC 25-260-170. Bacteria; other waters].

2-LMC000.40 (Rt. 625 Bridge) The 2008 Integrated Report (IR) finds thirteen of 33 E.coli samples exceed the 235 cfu/100 ml instantaneous criterion. Exceeding values range from 270 to 570 cfu/100 ml. Seven of 19 E.coli samples exceed the instantaneous criterion ranging from 250 to 570 cfu/100 ml in 2006. Exceeding values ranged from 250 to 570 cfu/100 ml.

In conducting the TMDL Study two tributary streams within the watershed are found to be impaired for bacteria (E.coli) as well (2004 Assessment-fecal coliform). Ellis Run and Mill Creek bacteria impairments are described in a separate fact sheet (I26R-02-BAC).

Looney Creek Drainage

**Recreation**

Estuary  
(Sq. Miles)

Reservoir  
(Acres)

River  
(Miles)

Escherichia coli - Total Impaired Size by Water Type:

**2.47**

#### Sources:

Livestock (Grazing or  
Feeding Operations)

On-site Treatment Systems  
(Septic Systems and Similar  
Decentralized Systems)

Unspecified Domestic Waste

Wastes from Pets

Wildlife Other than  
Waterfowl

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **I26R-02-BAC**

### Ellis Run and Mill Creek

Location: Ellis Run mainstem from the Rt. 645 crossing downstream to its confluence with Back Creek (1.60 miles). And Mill Creek mainstem (8.29 miles) from just downstream of the Rt. 11 crossing on downstream to the Mill Creek confluence with Back Creek.

City / County: Botetourt Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A

The Looney Creek Bacteria TMDL Load Duration Study is complete with US EPA approval on 06/21/2004 [Fed ID: 20103] and SWCB approval on 12/02/2004 (formerly VAW-I26R-01). Fecal coliform (FC) bacteria exceedences cause the original 1998 2.48 mile recreational use impairment in Looney Creek. Additional sample collection associated with TMDL development finds Recreational impairment on Ellis Run and Mill Creeks. These bacteria impairments were not specifically addressed by the approved TMDL.

Ellis Run (1.67 miles) and Mill Creek (8.30 miles), tributaries to Back Creek and Looney Creek, originally listed in 2004 for fecal coliform (FC) bacteria remain impaired for the recreational use with Escherichia coli (E.coli) replacing fecal coliform as the indicator per WQS [9 VAC 25-260-170. Bacteria; other waters].

2-ELS000.08- (Rt. 643 Bridge) The 2008 Integrated Report (IR) reveals 14 of 18 E.coli samples exceeding the WQS 235 cfu/100 ml instantaneous criterion. Values in excess of the criterion range from 250 to greater than 2000 cfu/100 ml. In 2006 13 of 15 (E.coli) samples exceed the instantaneous criterion with the same range of exceeding values. Five of six E.coli samples exceed the criterion ranging from 350 to >800 cfu/100 ml in 2004.

2-MIA000.79- (Junction of Routes 11 & 722) The 2008 IR finds eight of 18 E.coli samples in excess of the instantaneous criterion. Excursions range from 450 cfu/100 ml to 1700. In 2006 E.coli exceeds the instantaneous criterion in seven of 16 samples. Values in excess of the criterion ranged from 300 to 700 cfu/100 ml. The 2004 IR reports two of six E.coli samples exceed the instantaneous criterion at 470 and 700 cfu/100 ml.

Ellis Run and Mill Creek

**Recreation**

Estuary  
(Sq. Miles)

Reservoir  
(Acres)

River  
(Miles)

Escherichia coli - Total Impaired Size by Water Type:

**9.97**

#### Sources:

Livestock (Grazing or  
Feeding Operations)

On-site Treatment Systems  
(Septic Systems and Similar  
Decentralized Systems)

Unspecified Domestic Waste

Wastes from Pets

Wildlife Other than  
Waterfowl

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **I26R-03-TEMP**      **Ellis Run**

Location: Ellis Run mainstem from the Rt. 645 crossing downstream to its confluence with Back Creek.

City / County: Botetourt Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Temperature, water / 5C

2-ELS000.08- (Rt. 643 Bridge) Two temperature exceedences of the Stockable Trout water criterion (21°C) are found in 18 measurements at 21.7°C on 6/12/02 and 22.7°C on 7/13/2004. These results produce the 1.67 mile impairment and 2006 initial 303(d) Listing.

Ellis Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Temperature, water - Total Impaired Size by Water Type:			<b>1.67</b>

Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **I28R-01-BAC** Cedar Creek

Location: Cedar Creek from the headwaters downstream to its confluence with the James River. (Start Mile: 11.49 End Mile: 0.00 Total Impaired Size: 11.49 Miles)

City / County: Rockbridge Co.

Use(s): Recreation

Cause(s) /  
VA Category: Fecal Coliform / 5A

This segment remains impaired from the 2004 cycle due to violations of the fecal coliform standard. Insufficient information is available in the 2008 cycle to change this use support status, thus it will remain impaired. Initial Listing Date: 2002.

Cedar Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			11.49

Sources:

Non-Point Source Wildlife Other than Waterfowl

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **I30R-01-BAC**      **Calfpasture River**

Location: Calfpasture River from its confluence with Tizzle Branch downstream to its confluence with Brattons Run. (Start Mile: 26.52  
End Mile: 2.98 Total Impaired Size: 23.54 Miles)

City / County: Augusta Co.      Rockbridge Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station:  
2-CFP004.67 (4 violations of 35 samples for e-coli). Initial Listing Date: 2006.

Calfpasture River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>23.54</b>

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl
-------------	------------------	----------------------------------

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **I30R-02-BAC**      **Mill Creek**

Location: Mill Creek from the headwaters downstream to its confluence with the Calfpasture River. (Start Mile: 20.89 End Mile: 0.00  
Total Impaired Size: 20.89 Miles)

City / County: Bath Co.      Rockbridge Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A      Fecal Coliform / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 2-MIT000.04 (2 violations of 6 samples for e-coli). Initial Listing Date: 2006.

Mill Creek	Estuary	Reservoir	River
<b>Recreation</b>	(Sq. Miles)	(Acres)	(Miles)
Escherichia coli - Total Impaired Size by Water Type:			<b>20.89</b>
Mill Creek	Estuary	Reservoir	River
<b>Recreation</b>	(Sq. Miles)	(Acres)	(Miles)
Fecal Coliform - Total Impaired Size by Water Type:			<b>20.89</b>

Sources:

Agriculture      Non-Point Source      Wildlife Other than Waterfowl

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **I30R-03-PH** Piney Branch

Location: Piney Branch from the headwaters downstream to its confluence with Guys Run. (Start Mile: 2.24 End Mile: 0.00 Total Impaired Size: 2.24 Miles)

City / County: Rockbridge Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 5A

This segment is impaired due to violations of the pH WQS at station: UVA RB08 (12 violations of 12 samples for pH). Initial Listing Date: 2006.

Piney Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			2.24

Sources:

Atmospheric Deposition -  
Acidity

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **I32R-01-BEN**      **Wallace Mill Stream**

Location: Wallace Mill Stream from the Castaline Trout Farm discharge downstream to its confluence with the Calfpasture River. (Start Mile: .89 End Mile: 0.00 Total Impaired Size: .89 Miles)

City / County: Augusta Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 4A

This segment remains impaired due to due moderately and severely impaired benthic assessments in 1998. No additional benthic surveys have been completed. Initial Listing Date: 1998; This segment is included in the EPA approved Fish Farm TMDL. Federal TMDL ID # 18103

Wallace Mill Stream	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			<b>0.89</b>

Sources:

Aquaculture (Permitted)



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **I32R-02-BEN** Little Calfpasture River

Location: Little Calfpasture River from the Lake Merriweather Dam downstream to its confluence with the Calfpasture River. (Start Mile: .82 End Mile: 0.00 Total Impaired Size: .82 Miles)

City / County: Rockbridge Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at stations: 2-LCF000.02 (Impaired for VSCI) and 2-LCF000.76 (Impaired for VSCI). Initial Listing Date: 1996.

Little Calfpasture River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			<b>0.82</b>

Sources:

Upstream Impoundments  
(e.g., PI-566 NRCS  
Structures)

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **I32R-03-BAC**      **Little Calfpasture River**

Location: Little Calfpasture River from the headwaters downstream to its confluence with Smith Creek. (Start Mile: 22.28 End Mile: 11.96 Total Impaired Size: 10.32 Miles)

City / County: Augusta Co.

Use(s): Recreation

Cause(s) /  
VA Category: Fecal Coliform / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 2-LCF013.93 (3 violations of 12 samples for fecal coliform). Initial Listing Date: 2004.

Little Calfpasture River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Fecal Coliform - Total Impaired Size by Water Type:			<b>10.32</b>

Sources:

Non-Point Source	Wildlife Other than Waterfowl
------------------	-------------------------------

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **I33R-01-BAC** Cedar Grove Branch

Location: Cedar Grove Branch from the headwaters downstream to its confluence with the Maury River. (Start Mile: 4.66 End Mile: 0.00 Total Impaired Size: 4.66 Miles)

City / County: Rockbridge Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A

Fecal Coliform / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 2-CGB001.80 (7 violations of 18 samples for e-coli). Initial Listing Date: 2004.

Cedar Grove Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>4.66</b>

Cedar Grove Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Fecal Coliform - Total Impaired Size by Water Type:			<b>4.66</b>

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl
-------------	------------------	-------------------------------

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **I33R-02-BAC**      **Maury River**

Location: Maury River from the headwaters (Calfpasture/Little Calfpasture River confluence) downstream to its confluence with Kerrs Creek. (Start Mile: 44.60 End Mile: 25.05 Total Impaired Size: 19.55 Miles)

City / County: Rockbridge Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 2-MRY038.29 (5 violations of 27 samples for e-coli). Initial Listing Date: 2006.

Maury River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>19.55</b>

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl
-------------	------------------	----------------------------------

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **I34R-01-BAC**      **Hays Creek/Moffatts Creek**

Location: Moffatts Creek from the headwaters downstream to its confluence with Hays Creek; Hays Creek from its confluence with Moffatts Creek downstream to its confluence with the Maury River (Start Mile: 12, 7.62 End Mile: 0.00, 0.00 Total Impaired Size: 12 Miles, 7.62 Miles)

City / County: Augusta Co.      Rockbridge Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A      Fecal Coliform / 5A

These segments are impaired due to violations of the e-coli bacteria WQS at station: 2-HYS001.41 (7 violations of 18 samples for e-coli) and 2-HYS007.46 (17 violations of 29 samples for e-coli). Initial Listing Date: 1998.

Hays Creek/Moffatts Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>18.57</b>
Hays Creek/Moffatts Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Fecal Coliform - Total Impaired Size by Water Type:			<b>18.57</b>

Sources:

Agriculture      Non-Point Source      Wildlife Other than Waterfowl

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **I34R-02-TEMP**      **Hays Creek/Moffatts Creek**

Location: Moffatts Creek from the headwaters downstream to its confluence with Hays Creek; Hays Creek from its confluence with Moffatts Creek downstream to its confluence with the Maury River (Start Mile: 12, 7.62 End Mile: 0.00, 0.00 Total Impaired Size: 12 Miles, 7.6 Miles)

City / County: Augusta Co.      Rockbridge Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Temperature, water / 5A

These segment are impaired due to violations of the temperature WQS at stations: 2-HYS001.41 (7 violations of 36 samples for temperature) and 2-HYS007.46 (3 violations of 30 samples for temperature). Initial Listing Date 2006.

Hays Creek/Moffatts Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Temperature, water - Total Impaired Size by Water Type:			<b>18.57</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **I34R-03-BAC** Walker Creek

Location: Walker Creek and tributaries from the headwaters of Walker Creek to confluence with Dutch Hollow Branch. (Start Mile: 11.58 End Mile: 0.00 Total Impaired Size: 11.58 Miles)

City / County: Augusta Co. Rockbridge Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at stations: 2-WKS001.03 (6 violations of 30 samples for e-coli) and 2-WKS004.59 (4 violations of 12 samples for e-coli). Initial Listing Date: 2006.

Walker Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			11.58

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl
-------------	------------------	-------------------------------

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **I34R-04-BAC**      **Otts Creek**

Location: Otts Creek from its confluence with an unnamed tributary at the Route 726 bridge crossing downstream to its confluence with Moffatts Creek. (Start Mile: 5.11 End Mile: 0.00 Total Impaired Size: 5.11 Miles)

City / County: Augusta Co.      Rockbridge Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 2-OTS000.45 (7 violations of 30 samples for e-coli). Initial Listing Date: 2006.

Otts Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>5.11</b>

Sources:

Non-Point Source      Wildlife Other than  
Waterfowl



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **I34R-04-TEMP**      **Otts Creek**

Location: Otts Creek from its confluence with an unnamed tributary at the Route 726 bridge crossing downstream to its confluence with Moffatts Creek. (Start Mile: 5.11 End Mile: 0.00 Total Impaired Size: 5.11 Miles)

City / County: Augusta Co.      Rockbridge Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Temperature, water / 5A

This segment is impaired due to violations of the temperature WQS at station: 2-OTS000.45 (4 violations of 30 samples for temperature). Initial Listing Date: 2008.

Otts Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Temperature, water - Total Impaired Size by Water Type:			<b>5.11</b>

Sources:

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **I35R-01-TEMP**      **Mill Creek**

Location: Mill Creek from the headwaters downstream to its confluence with the Maury River. (Start Mile:8.59 End Mile: 0.00 Total Impaired Size: 8.59 Miles)

City / County: Rockbridge Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Temperature, water / 4C

This segment is impaired due to violations of the temperature WQS at stations: 2-MIS000.04 (3 violations of 15 samples for temperature); 2-MIS003.90 (2 violations of 2 samples for temperature); 2-MIS005.00 (2 violations of 2 samples for temperature) and 2-MIS005.94 (2 violations of 2 samples for temperature). Initial Listing Date: 2004.

Mill Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Temperature, water - Total Impaired Size by Water Type:			<b>8.59</b>

Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **I35R-02-BAC**      **Mill Creek**

Location: Mill Creek from the headwaters downstream to its confluence with the Maury River. (Start Mile: 8.59 End Mile: 0.00 Total Impaired Size: 8.59 Miles)

City / County: Rockbridge Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A

Fecal Coliform / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 2-MIS006.76 (2 violations of 3 samples for e-coli). Initial Listing Date: 2006.

Mill Creek	Estuary	Reservoir	River
<b>Recreation</b>	(Sq. Miles)	(Acres)	(Miles)
Escherichia coli - Total Impaired Size by Water Type:			<b>8.59</b>
Mill Creek	Estuary	Reservoir	River
<b>Recreation</b>	(Sq. Miles)	(Acres)	(Miles)
Fecal Coliform - Total Impaired Size by Water Type:			<b>8.59</b>

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl
-------------	------------------	-------------------------------

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **I35R-03-BEN**      **Woods Creek**

Location: Woods Creek and tributary from the headwaters downstream to its confluence with the Maury River. (Start Mile: 5.71 End Mile: 0.00 Total Impaired Size: 5.71 Miles)

City / County: Lexington City      Rockbridge Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at stations: 2-WDS002.08 (Impaired for VSCI) and 2-WDS002.17 (Impaired for VSCI). Initial Listing Date: 2008.

Woods Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			<b>5.71</b>

Sources:

Municipal (Urbanized High      Non-Point Source  
Density Area)

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **I36R-02-BEN**      **Moores Creek**

Location: Moores Creek and tributaries from the headwaters downstream to its confluence with the South River. (Start Mile: 8.39 End Mile: 0.00 Total Impaired Size: 8.39 Miles)

City / County: Rockbridge Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at stations: 2-MRC002.14 (Impaired for VSCI); 2-MRC003.82 (Impaired for VSCI) and 2-MRC004.21 (Impaired for VSCI). Initial Listing Date 2006.

Moores Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			<b>8.39</b>

Sources:

Non-Point Source	Wildlife Other than Waterfowl
------------------	-------------------------------

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **I36R-03-PH** Saint Marys River

Location: Saint Marys River from a point 1.78 miles above its confluence with Cellar Hollow downstream to its confluence with Cellar Hollow. (Start Mile: 1.78 End Mile: 0.00 Total Impaired Size: 1.78 Miles)

City / County: Augusta Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 5A

This segment is impaired due to violations of the pH WQS at station: UVS VT41 (11 violations of 12 samples for pH). Initial Listing Date: 2006.

Saint Marys River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			1.78

Sources:

Atmospheric Deposition -  
Acidity

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **I37R-01-BEN**      **Maury River**

Location: Maury River from its confluence with Indian Gap Run downstream to its confluence with the James River. (Start Mile: 12.84  
End Mile: 0.00 Total Impaired Size: 12.84 Miles)

City / County: Buena Vista City      Rockbridge Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

This segment is impaired due to violations of the General Standard for Benthics at station: 2-MRY004.27 (Impaired for VSCI).  
Initial Listing Date: 1998.

Maury River	Estuary	Reservoir	River
<b>Aquatic Life</b>	(Sq. Miles)	(Acres)	(Miles)
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			<b>12.84</b>

Sources:

Municipal (Urbanized High      Non-Point Source      Source Unknown  
Density Area)

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **I37R-02-PCB**      **Maury River**

Location: Maury River from its confluence with the South River downstream to its confluence with the James River. (Start Mile: 17.42  
End Mile: 0.00 Total Impaired Size: 17.42 Miles)

City / County: Buena Vista City      Rockbridge Co.

Use(s): Fish Consumption

Cause(s) /

VA Category: PCB in Fish Tissue / 5A

This segment is impaired due to the presence of PCB's in fish tissue at stations: 2-MRY011.23 (01 PCBs 3 sp 05 PCBs 3 sp)  
and 2-MRY011.86 (04 PCBs). Initial Listing Date: 2006. VDH Fish Consumption Advisory

Maury River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Fish Consumption</b>			
PCB in Fish Tissue - Total Impaired Size by Water Type:			<b>17.42</b>

Sources:

Source Unknown



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **I37R-03-BAC**      **Maury River**

Location: Maury River from its confluence with the South River downstream to its confluence with the James River. (Start Mile: 17.42  
End Mile: 0.00 Total Impaired Size: 17.42 Miles)

City / County: Buena Vista City      Rockbridge Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at stations: 2-MRY000.09 (3 violations of 12 for e-coli); 2-MRY005.39 (3 violations of 12 samples for e-coli) and 2-MRY014.78 (7 violations of 41 samples for e-coli). Initial Listing Date: 2006.

Maury River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>17.42</b>

Sources:

Municipal (Urbanized High Density Area)	Non-Point Source	Wildlife Other than Waterfowl
--	------------------	----------------------------------

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **I38R-01-BAC** Buffalo Creek

Location: Buffalo Creek from its confluence with Moores Creek downstream to its confluence with the Maury River. (Start Mile: 15.51  
End Mile: 0.00 Total Impaired Size: 15.51 Miles)

City / County: Rockbridge Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A

Fecal Coliform / 5A

This segment is impaired due to violations of the e-coli bacteria WQS at station: 2-BLD000.22 (2 violations of 12 samples for e-coli). Initial Listing Date: 2004.

Buffalo Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			3.93
Buffalo Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Fecal Coliform - Total Impaired Size by Water Type:			15.51

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl
-------------	------------------	----------------------------------

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **I38R-02-BAC**      **Colliers Creek**

Location: Colliers Creek from the headwaters downstream to its confluence with Buffalo Creek. (Start Mile: 13.77 End Mile: 0.00 Total Impaired Size: 13.77 Miles)

City / County: Rockbridge Co.

Use(s): Recreation

Cause(s) /  
VA Category: Fecal Coliform / 5A

This segment remains impaired due to violations of the fecal coliform WQS at station: 2-CLL001.99 (3 violations of 11 samples for fecal coliform). Initial Listing Date: 2006; This impairment is carried forward from the 2006 cycle as no additional e-coli data are available for review for assessment in 2008.

Colliers Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Fecal Coliform - Total Impaired Size by Water Type:			<b>13.77</b>

Sources:

Agriculture	Non-Point Source	Wildlife Other than Waterfowl
-------------	------------------	----------------------------------

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **J01R-01-BAC**

### Appomattox River

Location: Appomattox River from its confluence with Suanee Creek to its confluence with Stock Creek.

City / County: Amelia Co. Appomattox Co. Buckingham Co. Chesterfield Co. Cumberland Co.  
Powhatan Co. Prince Edward Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A

Escherichia coli / 5A

Fecal Coliform / 5A

Station ID: DEQ Stations

2-APP143.57 2/3 violation rate for fecal coliform

2-APP137.55 2/10 violation rate for e coli

2-APP127.08 4/12 violation rate for e coli

2-APP122.15 2/10 violation rate for e coli

Clean Virginia Waterways (Level III Citizen Monitoring)

2APP-APP2-CVW 5/14 violation rate for e coli

Appomattox Basinwide TMDL Approved 8/30/04

Appomattox River

**Recreation**

Estuary  
(Sq. Miles)

Reservoir  
(Acres)

River  
(Miles)

Escherichia coli - Total Impaired Size by Water Type:

**91.37**

Appomattox River

**Recreation**

Estuary  
(Sq. Miles)

Reservoir  
(Acres)

River  
(Miles)

Fecal Coliform - Total Impaired Size by Water Type:

**5.93**

Sources:

Agriculture

Livestock (Grazing or  
Feeding Operations)

Municipal Point Source  
Discharges

Non-Point Source

Source Unknown

Unspecified Domestic Waste

Wastes from Pets

Wildlife Other than  
Waterfowl

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **J01R-02-BAC**      **Horsepen Creek**

Location: Horsepen Creek from its headwaters to its mouth on the Appomattox River

City / County: Buckingham Co.

Use(s): Recreation

Cause(s) /  
VA Category: Fecal Coliform / 5A

Station ID: 2-HRE000.44 4/11 violation rate for fecal coliform and 1/9 violation rate for e coli

Horsepen Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Fecal Coliform - Total Impaired Size by Water Type:			<b>3.88</b>

Sources:

Non-Point Source

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **J01R-03-BAC**      **Suanee Creek**

Location: Suanee Creek from its headwaters to its mouth on the James River

City / County: Appomattox Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

Station ID: 2-SUA001.54 4/10 violation rate for e coli & 2-SUA003.80 1/8 violation rate for e coli

Suanee Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>5.88</b>

Sources:

Non-Point Source

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **J01R-04-BAC**      **Vaughans Creek**

Location: Vaughns Creek from headwaters to its mouth at the Appomattox River

City / County: Appomattox Co.      Prince Edward Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

Station ID: 2-VNS000.31(Ambient)  
E. coli - 3/12 Violation Rate  
2-VGN003.75 (Ambient)  
E. coli - 2/8 Violation Rate  
2-VGN007.73 (Ambient)  
E. coli - 4/8 Violation Rate  
2VGN-CVW (Clean VA Waterways Physical/Chemical Sampling)  
E. coli - 2/12 Violation Rate

Vaughans Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>6.82</b>

Sources:  
Non-Point Source

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **J01R-05-BAC**      **Gross Creek**

Location: Gross Creek from its headwaters to its mouth on the Appomattox River

City / County: Prince Edward Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

- Station ID: Clean Virginia Waterways Sampling
- 2GSK-APP-CVW E. coli - 3/11 violation rate
- 2GSK-BLA-CVW E. coli - 3/11 violation rate
- 2GSK-GRO2-CVW E. coli - 9/16 violation rate
- 2GSK-GRO3-CVW E. coli - 3/11 violation rate
- 2GSK-GROCL-CVW E. coli - 3/11 violation rate
- 2GSK-GROLWA-CVW E. coli - 4/16 violation rate
- 2GSK-GROPUT-CVW E. coli - 3/3 violation rate

Gross Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>1.83</b>

Sources:

Source Unknown



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **J01R-06-BAC**      **Gross Creek, Unnamed Tributary**

Location: Unnamed Tributary to Gross Creek from its headwaters to its mouth on Gross Creek

City / County: Prince Edward Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

Station ID: Clean Virginia Waterways Sampling  
2GSK-GROFRA-CVW E. coli - 3/8 violation rate  
2GSK-GROLWU-CVW E. coli - 3/11 violation rate  
2GSK-GRORSA-CVW E. coli - 4/7 violation rate  
2GSK-GRORSS-CVW E. coli - 2/7 violation rate

Segment is within study boundaries of 2004 Appomattox River Basinwide TMDL

Gross Creek, Unnamed Tributary	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>0.70</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **J01R-07-BAC**      **Plum Creek**

Location: Plum Creek from its headwaters to its mouth on the Appomattox River

City / County: Powhatan Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

Station ID: 2-PUM000.29 5/8 violation rate for e coli

Plum Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>3.72</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **J02R-01-BAC**      **Spring Creek**

Location: Spring Creek from Buffalo Creek Dam No. 4 to its confluence with Buffalo Creek

City / County: Prince Edward Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A

Escherichia coli / 5A

Station ID: 2-SPA001.46 4/14 violation rate for e coli

2-SPA006.48 4/13 violation rate for e coli

Spring Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>7.91</b>

Sources:

Livestock (Grazing or Feeding Operations)	Non-Point Source	Wastes from Pets	Wildlife Other than Waterfowl
---	------------------	------------------	-------------------------------

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **J02R-02-BAC** Buffalo Creek

Location: Buffalo Creek from its confluence with Spring Creek to its mouth on the Appomattox River

City / County: Prince Edward Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

Station ID: 2-BFL002.00 2/12 violation rate for e coli  
2-BFL011.03 5/32 violation rate for e coli  
2BFL-BUF3-CVW 5/15 violation rate for e coli

Buffalo Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			11.42

Sources:

Non-Point Source

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **J03L-01-DO**      **Sandy River Reservoir**

Location: Sandy River Reservoir from its impounding structure to its backwaters to include the Marrowbone Creek arm.

City / County: Prince Edward Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Oxygen, Dissolved / 5A

Station ID: 2-SDY004.27 Dissolved Oxygen - 4/33 Violation Rate  
Transitional Zone Stations  
2-MBN000.96 Dissolved Oxygen - 27/58 Violation Rate  
2-SDY005.85 Dissolved Oxygen - 21/57 Violation Rate  
Pooled Data:  
Dissolved Oxygen - 50/148 Violation Rate  
pH - 0/187 Violation Rate

Sandy River Reservoir	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>718.39</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **J03L-03-DO** Prince Edward Lake

Location: Prince Edward Lake from its impounding structure to its backwaters. Located in Twin Lakes State Park.

City / County: Prince Edward Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Oxygen, Dissolved / 5A

Station ID: 2-SDY011.08 16/42 violation rate for dissolved oxygen. Non-187 lake all DO samples assessed.

Prince Edward Lake	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:			26.75

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **J03L-04-DO**      **Goodwin Lake**

Location: Goodwin Lake from its impounding structure to its backwaters. Located in Twin Lakes State Park.

City / County: Prince Edward Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Oxygen, Dissolved / 5A

Station ID: 2-XEP000.44 22/42 violation rate for dissolved oxygen. Non-187 lake all DO samples assessed.

Goodwin Lake	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>12.42</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **J03R-01-BAC** Little Sandy Creek

Location: Little Sandy Creek from its headwaters to the backwaters of Sandy River Reservoir

City / County: Prince Edward Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 4A

Station ID: 2-LIT002.40 3/13 violation rate for e coli & 5/13 violation rate for e coli

Little Sandy Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			6.16

Sources:

Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl
---	----------------------------	------------------	-------------------------------



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **J03R-05-BAC**      **Sandy River**

Location: Sandy River from the Sandy River Reservoir Dam to its mouth at the Bush River

City / County: Prince Edward Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A      Fecal Coliform / 5A

Station ID: 2-SDY003.00 2/9 violation rate for e coli

Sandy River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>3.22</b>
Sandy River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Fecal Coliform - Total Impaired Size by Water Type:			<b>3.22</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **J04R-01-BAC**      **Bush River**

Location: Bush River from its confluence with Millers Creek to its mouth on the Appomattox River

City / County: Prince Edward Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 4A

Station ID: 2-BSR002.82 2/14 violation rate for e coli

Bush River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>4.97</b>

Sources:

Livestock (Grazing or Feeding Operations)	Unspecified Domestic Waste	Wastes from Pets	Wildlife Other than Waterfowl
---	----------------------------	------------------	-------------------------------

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **J05R-01-BAC**      **Briery Creek**

Location: Briery Creek from the Briery Creek Lake Dam to the confluence with the Bush River

City / County: Prince Edward Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 4A

Station ID: 2-BRI001.00 2/16 violation rate for e coli & 2-BRI004.01 2/13 violation rate for e coli

Briery Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>10.10</b>

Sources:

Livestock (Grazing or Feeding Operations)	Wastes from Pets	Wildlife Other than Waterfowl
--	------------------	----------------------------------

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **J05R-01-BEN**      **Briery Creek**

Location: Briery Creek from the Briery Creek Lake Dam to the confluence with the Bush River

City / County: Prince Edward Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

Station ID: 2-BRI007.80  
Impaired Benthic Assessment - Fixed, stable habitat within stream reach. Sediments are frequently disturbed during high flow events. Briery Creek Reservoir is upstream of the sample reach. Flow modifications due to upstream dam may be affecting the benthic community.

Briery Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			<b>10.10</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **J05R-02-BAC** Tanyard Branch

Location: Tanyard Branch from the Route 646 bridge downstream to its mouth at Briery Creek

City / County: Prince Edward Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

Station ID: 2-TNY000.51 2/14 violation rate for e coli

Tanyard Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>0.41</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **J06R-01-BAC**      **Angola Creek**

Location: Angola Creek from its headwaters to its mouth on the Appomattox River

City / County: Cumberland Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 4A

Station ID:DEQ Stations  
2-ANG001.27 4/12 violation rate for e coli  
2-ANG003.35 5/12 violation rate for e coli  
Clean Virginia Waterways Station  
2ANG-ANG17-CVW 3/6 violation rate for e coli

Appomattox River Basin TMDL Approved 8/30/04

Angola Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>6.79</b>

Sources:

Livestock (Grazing or Feeding Operations)	Wastes from Pets	Wildlife Other than Waterfowl
--	------------------	----------------------------------

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **J06R-03-BAC**      **Horsepen Creek**

Location: Horsepen Creek from its headwaters to the mouth at Big Guinea Creek.

City / County: Cumberland Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 4A

Station ID: 2-HRP000.42 3/12 violation rate for e coli

Horsepen Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>3.82</b>

Sources:

Livestock (Grazing or Feeding Operations)	Wildlife Other than Waterfowl
--	----------------------------------

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **J06R-04-BAC**      **Sayers Creek**

Location: Sayers Creek from the Amelia/Nottoway County line to its confluence with the Appomattox River.

City / County: Amelia Co.      Prince Edward Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 4A

Station ID: 2-SYL001.26 4/14 violation rate for e coli & 2SAY\*-SAY7-CVW 4/6 violation rate for e coli

Sayers Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>4.94</b>

Sources:

Livestock (Grazing or Feeding Operations)	Wastes from Pets	Wildlife Other than Waterfowl
--	------------------	----------------------------------



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **J06R-05-BAC**      **Big Guinea Creek**

Location: Big Guinea Creek from its headwaters to the mouth at the Appomattox River.

City / County: Cumberland Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 5A

Fecal Coliform / 5A

Station ID: 2-BGU001.39 7/21 Violation Rate for Fecal Coliform & 4/11 Violation Rate for e coli & 2-BGU005.67 2/9 Violation Rate for E.coli

Big Guinea Creek	Estuary	Reservoir	River
<b>Recreation</b>	(Sq. Miles)	(Acres)	(Miles)
Escherichia coli - Total Impaired Size by Water Type:			<b>8.49</b>
Big Guinea Creek	Estuary	Reservoir	River
<b>Recreation</b>	(Sq. Miles)	(Acres)	(Miles)
Fecal Coliform - Total Impaired Size by Water Type:			<b>8.49</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **J06R-06-BAC** Little Saylers Creek

Location: Little Saylers Creek from its headwaters to its mouth on Saylers Creek

City / County: Prince Edward Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

Station ID: DEQ Stations  
2-LIU000.70 (Appomattox Basinwide TMDL Station)  
E. coli - 5/12 Violation Rate  
2-LIU002.75 (Appomattox Basinwide TMDL Station)  
E. coli - 5/12 Violation Rate  
Clean Virginia Waterways Stations  
2LIU-SAY5-CVW (Clean VA Waterways Sampling)  
E. coli - 2/6 Violation Rate  
2LIU-SAY6-CVW (Clean VA Waterways Sampling)  
E. coli - 3/6 Violation Rate

Segment located within the Appomattox Basinwide Bacteria TMDL Study Area

Little Saylers Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>6.58</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **J06R-07-BAC**      **Stock Creek**

Location: Stock Creek from its headwaters to the mouth at the Appomattox River

City / County: Amelia Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

Station ID: 2-SCK002.24 2/11 violation rate for e coli

Stock Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>8.44</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **J06R-08-BAC**      **Green Creek**

Location: Green Creek from its headwaters to its mouth on the Appomattox River

City / County: Cumberland Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

Station ID: 2-GRF000.98 4/9 violation rate for e coli & 2GRF-GRE16-CVW 3/6 violation rate

Green Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>5.08</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **J07R-01** **Skinquarter Creek**

Location: Skinquarter Creek from its headwaters to its mouth at the Appomattox River.

City / County: Chesterfield Co. Powhatan Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Oxygen, Dissolved / 4C pH / 4C

Skinquarter Creek was assessed not supporting of the Aquatic Life use support goal based on dissolved oxygen and pH violations at the Route 603 bridge (2-SQT001.54) and the Route 622 bridge (2-SQT003.12).

During the 2006 cycle, natural conditions assessment reports were developed for dissolved oxygen and pH. Both reports attributed the impairments to natural low flow conditions and recommended that Skinquarter Creek be reclassified as Class VII swampwater. Until the reclassification, the segment will be assessed as Cat. 4C.

During the 2008 cycle, both stations remained impaired for DO and pH. The segment was shortened from rivermile 5.27 to the mouth to match the Natural Conditions Reports.

Skinquarter Creek	Estuary	Reservoir	River
<b>Aquatic Life</b>	(Sq. Miles)	(Acres)	(Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>5.08</b>
Skinquarter Creek	Estuary	Reservoir	River
<b>Aquatic Life</b>	(Sq. Miles)	(Acres)	(Miles)
pH - Total Impaired Size by Water Type:			<b>5.08</b>

Sources:

Natural Conditions - Water  
Quality Standards Use  
Attainability Analyses  
Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **J07R-02-BAC**      **Rocky Ford Creek**

Location: Rocky Ford Creek from it headwaters downstream to the confluence with Fighting Creek.

City / County: Powhatan Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

Rocky Ford Creek was initially assessed as not supporting of the Recreation use goal in the 2004 cycle based on fecal coliform violations at the Rt. 603 bridge (2-RFD002.58).

During the 2008 cycle, the E. coli violation rate was 4/10 and the impairment was converted to E. coli. The TMDL due date was maintained.

Rocky Ford Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>5.53</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **J07R-03-BAC**      **Butterwood Creek**

Location: The mainstem of Butterwood Creek.

City / County: Powhatan Co.

Use(s): Recreation

Cause(s) /  
VA Category: Fecal Coliform / 5A

During the 2006 cycle, Butterwood Creek was assessed as not supporting the Recreation Use due to a fecal coliform violation rate of 2/10 at the Route 603 bridge (2-BTR000.50). No additional E. coli data has been collected.

Butterwood Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Fecal Coliform - Total Impaired Size by Water Type:			<b>5.34</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **J08R-01-BAC**      **Flat Creek**

Location: Flat Creek from Nibbs Creek to the Appomattox River.

City / County: Amelia Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 4A

Flat Creek was assessed not supporting of the Recreation use support goal based on fecal coliform standard violations recorded at the Route 604 bridge (2-FLA001.95). In the current cycle, the bacteria impairment switched to E. coli.

Bacteria TMDL for Flat Creek was included in the Appomattox River development report and was approved by EPA 8/30/2004. The segment is now assessed at Cat 4A.

Flat Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>4.00</b>

Sources:

Agriculture	Municipal Point Source Discharges	Non-Point Source
-------------	--------------------------------------	------------------



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **J08R-02-BAC** Flat Creek

Location: Mainstem from its headwater to Nibbs

City / County: Amelia Co. Nottoway Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 4A

For 2008 assessment the segment was assessed as impaired for recreational use due to E.coli violation rate of 3 out of 10 at route 642 bridge (2-FLA018.71).

Flat Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>31.29</b>

Sources:

Agriculture                      Municipal Point Source                      Non-Point Source  
Discharges

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **J09R-01-BAC**      **Nibbs Creek**

Location: Nibbs Creek from Amelia Courthouse Sewage Treatment Plant to confluence with Flat Creek.

City / County: Amelia Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 4A

Nibbs Creek was assessed in 1998 as fully supporting but threatened of the Recreation use goals based on sampling at the Route 609 bridge. The segment was identified to Virginia for listing consideration during the next cycle. The segment was subsequently listed as impaired during the 2002 cycle, therefore the TMDL was due in 2010.

In addition, during the year 2002 cycle, an UT to Nibbs Creek was considered impaired for Recreation Use based on monitoring at the Rt. 609 bridge (2-XQK000.15 and previously called PL-43B). The TMDL for this segment was due in 2014.

In the 2006 cycle, the bacteria impairment switched to E. coli. Bacteria TMDL for Nibbs Creek was included in the Appomattox River development report and was approved by EPA 8/30/2004. The segment is now assessed at Cat 4A for recreation use.

Nibbs Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Recreation			
Escherichia coli - Total Impaired Size by Water Type:			5.45

Sources:

Agriculture	Municipal Point Source Discharges	Non-Point Source
-------------	--------------------------------------	------------------

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **J10R-01-BEN**      **UT to Appomattox River**

Location: Mainstem to Appomattox

City / County: Amelia Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Benthic-Macroinvertebrate Bioassessments / 5A

During the 2008 cycle this segment is impaired for aquatic life use due to benthic impairment at fresh water probabilistic monitoring station 2-XUE000.31

UT to Appomattox River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Benthic-Macroinvertebrate Bioassessments - Total Impaired Size by Water Type:			<b>1.49</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **J11L-01-DO**

**Lake Nottoway (Lee Lake)**

Location: Lake Nottoway (Lee Lake)

City / County: Nottoway Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Oxygen, Dissolved / 5A

During the 2006 cycle, the DO violation rate for Lake Nottoway station 2-LDJ000.60 at the dam was 5/21 in the epilimnion and 27/32 in the hypolimnion (when stratified). TSI was not calculated due to exceedences in DO violation rate in the epilimnion. Lake Nottoway (Lee Lake) will be assessed as Cat. 5A needing TMDL development (impaired partially due to anthropogenic source(s) of pollution.

During the 2008 cycle this lake was impaired for DO with a violation rate of 6/22. Since the violations only occurred in the month of October this could be due to natural turnover of the lake.

the chlorophyll a standard was exceeded for 2004 but was insufficient data due to having only one year of data

Lake Nottoway (Lee Lake)

**Aquatic Life**

Estuary  
(Sq. Miles)

Reservoir  
(Acres)

River  
(Miles)

Oxygen, Dissolved - Total Impaired Size by Water Type:

**161.07**

### Sources:

Changes in Ordinary  
Stratification and Bottom  
Water Hypoxia/Anoxia

Dam or Impoundment

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **J11R-01-BAC**      **Deep Creek**

Location: Deep Creek from the confluence with Cellars Creek to the confluence of Beaverpond Creek.

City / County: Amelia Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 4A

In 2002, Deep Creek from Spindlers Run to the confluence with Beaverpond Creek was assessed as not supporting of the Recreation use support goal based on fecal coliform standard violations at 2-DPC005.20 (Route 153).			
The segment was originally assessed as fully supporting but threatened during the 1998 cycle. During the year 2002 the segment was extended from the 1998 cycle, however the segment was returned to the original size in 2004 because of an acceptable monitoring rate at 2- DPC010.88 (Route 615).			
Bacteria TMDL for Deep Creek was included in the Appomattox River development report and was approved by EPA 8/30/2004. The segment is now assessed as Cat 4A, however as of the 2006 assessment cycle the EPA TMDLID was not available.			
Segment length was increased in 2006 to include Deep Creek from Cellars Creek to confluence with Beaverpond Creek to match the TMDL segment length.			
During the 2006 cycle, the violation rate for E. coli was 5/28 at 2-DPC005.02, and 1/12 for fecal coliform at 2-DPC010.88.			
For the 2008 cycle, the violation rate for E. coli was 7/42 at 2-DPC005.20			
Deep Creek	Estuary	Reservoir	River
Recreation	(Sq. Miles)	(Acres)	(Miles)
Escherichia coli - Total Impaired Size by Water Type:			11.19

Sources:

Agriculture	Municipal Point Source Discharges	Non-Point Source
-------------	-----------------------------------	------------------

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **J11R-02-DO**      **Deep Creek**

Location: Deep Creek from its confluence with Winningham Creek to the confluence with Little Creek.

City / County: Nottoway Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Oxygen, Dissolved / 4C

In 1998, Deep Creek from its headwaters to the confluence with Cellar Creek was assessed as not supporting of the Aquatic Life use support goal based on dissolved oxygen standard violations at the Route 611 bridge (2-DPC019.03).

In January 2005, the Natural Conditions Assessment for Low Dissolved Oxygen in Deep Creek, Nottoway County report attributed the DO violations in the segment to natural conditions caused by swamps waters, therefore will be assessed in 2006 as Cat. 4C, no TMDL needed. It has been recommended this segment be reclassified as Class VII, Swamp Waters.

The segment was shortened to include Deep Creek from the confluence of Winningham Creek downstream to confluence with Little Creek. In 2006, the DO violation rate was 3/8 at 2-DPC019.03.

The 2008 cycle had a D.O violation rate of 5/10.

Deep Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life	Oxygen, Dissolved - Total Impaired Size by Water Type:		5.59

Sources:  
Natural Conditions - Water  
Quality Standards Use  
Attainability Analyses  
Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **J11R-06-BAC**      **West Creek**

Location: West Creek from the confluence with Tanners Branch to the confluence with Deep Creek.

City / County: Amelia Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 4A

The segment was assessed as Not Supporting the Recreation Use support goals based on fecal coliform violations at the Route 614 bridge (2-WET004.96).

West Creek was initially impaired for fecal coliform in 2002. In the 2006 cycle, E. coli. was added as an impairing cause.

Bacteria TMDL for West Creek was included in the Appomattox River development report and was approved by EPA 8/30/2004.

During the 2006, this segment had an E. coli violation rate of 3/19.

During the 2008 cycle, the segment had an E.coli violation rate of 3/20, and the TMDLID was still not available

West Creek	Estuary	Reservoir	River
Recreation	(Sq. Miles)	(Acres)	(Miles)
Escherichia coli - Total Impaired Size by Water Type:			7.24

Sources:

Agriculture	Municipal Point Source Discharges	Non-Point Source
-------------	-----------------------------------	------------------

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **J12R-01**

### Winticomack Creek

Location: Winticomack Creek from Long Branch to its mouth at the Appomattox River.

City / County: Amelia Co.

Nottoway Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Oxygen, Dissolved / 4C

pH / 4C

Winticomack Creek is assessed as not supporting the aquatic life use goals based on dissolved oxygen and pH violations at the Route 622 bridge (2-WTK001.50), and the Route 708 bridge (2-WPK003.92) and the results of a 1994 special study.

The DO violation rate for 2006 was 11/40 at 2-WTK001.50, and 8/33 at 2-WTK003.92. The pH violation rate was 15/39 at 2-WTK001.50, and 9/32 at 2-WTK003.92.

The Natural Conditions Assessment report for Low DO in Winticomack Creek recommends that Long Branch and UT to Winticomack XTZ in their entirety and Winticomack Creek from its Long Branch to its mouth be reclassified as Class VII swampwaters. In addition, the Natural Conditions Assessment report for Low pH in Winticomack Creek recommends that the following streams be reclassified as Class VII swampwaters: Winticomack from headwaters to mouth, and UTs to Winticomack at rm 1.92 (XTZ), 3.15 (XWB), 8.77 (XTY), and 11.16. Until the reclassification, the streams will be assessed as Cat. 4C.

Winticomack Creek

**Aquatic Life**

Estuary  
(Sq. Miles)

Reservoir  
(Acres)

River  
(Miles)

Oxygen, Dissolved - Total Impaired Size by Water Type:

**8.71**

Winticomack Creek

**Aquatic Life**

Estuary  
(Sq. Miles)

Reservoir  
(Acres)

River  
(Miles)

pH - Total Impaired Size by Water Type:

**10.99**

#### Sources:

Natural Conditions - Water  
Quality Standards Use  
Attainability Analyses  
Needed



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **J12R-02**

### Winterpock Creek and tributaries

Location: Segment consists of Winterpock Creek mainstem below rivermile 8.47 and its tributaries, excluding Surline Branch and its tributaries.

City / County: Chesterfield Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Oxygen, Dissolved / 4C

pH / 4C

The mainstem of Winterpock Creek was initially included on the 303(d) list in 1994 based on excessive DO and pH standard violations. This cycle Winterpock Creek was assessed not supporting of the Aquatic Life use support goal based on a DO and pH standard violations recorded at the Route 602 bridge (2-WPK003.23). The violations were confirmed in a DEQ special study performed in 1994 and during pre-TMDL monitoring at multiple stations in the watershed during the year 2004 cycle. The TMDL is due in 2010.

The segment was extended in the year 2002 cycle to include tributaries because of a special study performed by the Richmond Regional PDC in 1997-1998. These impairments were confirmed during the pre-TMDL monitoring. The TMDL for the tributaries is due in 2014.

During the 2006 assessment, the DO standard violation rate at 2-XUA000.81 was 3/19. In March 2005, the Natural Conditions Assessment for Low DO in Winterpock Creek report was completed. Based on this evaluation, it is recommended water quality standard classification be changed to Class VII Swampwater due to natural conditions, rather than a TMDL, for mainstem Winterpock Creek from rivermile 6.42 at the confluence of the largest tributary between Rts. 655 and 664 and its unnamed tributaries downstream to the mouth, excluding Surline Branch and its tributaries, and unnamed tributary "XUB". This segment is assessed as Cat 4C.

The pH standard violation rate at 2-XUA000.81 was 17/19, and 15/17 at 2-XUB000.27. The report for the Natural Conditions Assessment for low pH in Winterpock Creek was also completed. A change in the water quality standards classification to Class VII Swampwater due to natural conditions, rather than a TMDL, was indicated for mainstem Winterpock Creek from rivermile 8.47 and its unnamed tributaries downstream to the mouth, excluding Surline Branch and its tributaries. This segment is assessed as Cat 4C.

In 2006, the segment was shortened to include Winterpock Creek from rivermile 8.47 and its tributaries to the mouth.

In 2008, The violation rate for station 2-XUA000.81 for D.O was 3/18 and for pH 16/18. The violation rate for station 2-XUB000.27 for pH was 16/17

Winterpock Creek and tributaries	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>18.09</b>
Winterpock Creek and tributaries	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
pH - Total Impaired Size by Water Type:			<b>18.09</b>

#### Sources:

Natural Conditions - Water  
Quality Standards Use  
Attainability Analyses  
Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **J12R-04**

**UT to Winticomack Creek**

Location: Mainstem from its headwaters to its mouth at Winticomack Creek

City / County: Amelia Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Oxygen, Dissolved / 4C

pH / 4C

The segment was assessed as not supporting of the Aquatic Life use support goal based on dissolved oxygen and pH violations at the Route 708 bridge (2-XTZ000.89).

For the 2006 cycle, the DO violation rate was 11/20 and the pH violation rate was 8/20.

The Natural Conditions Assessment report for Low DO in Winticomack Creek recommends that Long Branch and UT to Winticomack XTZ in their entirety and Winticomack Creek from its Long Branch to its mouth be reclassified as Class VII swampwaters. In addition, the Natural Conditions Assessment report for Low pH in Winticomack Creek recommends that the following streams be reclassified as Class VII swampwaters: Winticomack from headwaters to mouth, and Uts to Winticomack at rm 1.92 (XTZ), 3.15 (XWB), 8.77 (XTY), and 11.16. Until the reclassification, the streams will be assessed as Cat. 4C.

For the 2008 cycle the DO violation rate was 11/20 and the pH violation rate was 8/20 due to natural conditions

UT to Winticomack Creek

**Aquatic Life**

Estuary  
(Sq. Miles)

Reservoir  
(Acres)

River  
(Miles)

Oxygen, Dissolved - Total Impaired Size by Water Type:

**2.66**

UT to Winticomack Creek

**Aquatic Life**

Estuary  
(Sq. Miles)

Reservoir  
(Acres)

River  
(Miles)

pH - Total Impaired Size by Water Type:

**2.66**

Sources:

Natural Conditions - Water  
Quality Standards Use  
Attainability Analyses  
Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **J12R-05-PH**      **UT to Winticomack Creek**

Location: Mainstem from its headwaters to its mouth at Winticomack Creek

City / County: Amelia Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 4C

The segment was assessed as not supporting of the Aquatic Life use support goal based on pH violations at the Route 606 bridge (2-XTY000.08).

For the 2006 cycle, the pH violation rate cycle was 10/17.

The Natural Conditions Assessment report for Low pH in Winticomack Creek recommends that the following streams be reclassified as Class VII swampwaters: Winticomack from headwaters to mouth, and UTs to Winticomack at rm 1.92 (XTZ), 3.15 (XWB), 8.77 (XTY), and 11.16. In addition, the Natural Conditions Assessment report for Low DO in Winticomack Creek recommends that Long Branch and UT to Winticomack XTZ in their entirety and Winticomack Creek from its Long Branch to its mouth be reclassified as Class VII swampwaters. Until the reclassification, the streams will be assessed as Cat. 4C.

The violation rate for 2008 was 13/17 for pH

UT to Winticomack Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			0.81

### Sources:

Natural Conditions - Water  
Quality Standards Use  
Attainability Analyses  
Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **J12R-06-DO**      **Horsepen Branch**

Location: Headwaters to mouth.

City / County: Amelia Co.

Use(s): Aquatic Life

Cause(s) /

VA Category: Oxygen, Dissolved / 5C

Horsepen Branch is assessed as not supporting for aquatic life use goals based on a dissolved oxygen violation rate 2/15 at the Rt. 622 bridge (2-HOI001.85). Source of the DO violations may be attributed to natural conditions For 2008 it was assessed as not supporting for aquatic life based on a DO violations at station at Hol001.85, violation rate was 1/15 for DO.

Horsepen Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>4.37</b>

Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **J12R-06-PH**      Horsepen Branch

Location: Headwaters to mouth.

City / County: Amelia Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 5C

Horsepen Branch is assessed as not supporting for aquatic life use goals based on a pH violation rate of 6/15 at the Rt. 622 bridge (2-HOI001.85). Source of the pH violations may be attributed to natural conditions For 2008 it was assessed as not supporting for aquatic life based on pH violations at station at Hol001.85, violation rate was 7/15 for pH.

Horsepen Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
pH - Total Impaired Size by Water Type:			<b>4.37</b>

Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **J12R-07-PH**      **UT to Winticomack Creek**

Location: Mainstem from headwaters to its mouth

City / County: Amelia Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 4C

The segment was assessed as not supporting of the Aquatic Life use support goal based on pH violations at the Route 708 bridge (2-XTZ000.89).

For the 2006 cycle, the DO violation rate was 11/20 and the pH violation rate was 8/20.

The Natural Conditions Assessment report for Low DO in Winticomack Creek recommends that Long Branch and UT to Winticomack XTZ in their entirety and Winticomack Creek from its Long Branch to its mouth be reclassified as Class VII swampwaters. In addition, the Natural Conditions Assessment report for Low pH in Winticomack Creek recommends that the following streams be reclassified as Class VII swampwaters: Winticomack from headwaters to mouth, and UTs to Winticomack at rm 1.92 (XTZ), 3.15 (XWB), 8.77 (XTY), and 11.16. Until the reclassification, the streams will be assessed as Cat. 4C.

For the 2008 cycle the pH violation rate was 9/20. and there was no DO impairment.

UT to Winticomack Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			3.77

Sources:

Natural Conditions - Water  
Quality Standards Use  
Attainability Analyses  
Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **J12R-08-BAC**      **Appomattox River**

Location: Appomattox River from Deep Creek To Lake Chesdin

City / County: Amelia Co.      Chesterfield Co.      Nottoway Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 4A

For the 2008 cycle The segment was impaired for Recreation use due to E.coli violation rate of 2/11 at station 2-APP037.08. Although not specifically addressed in the TMDL the Segment was assessed as Cat. 4A because it was in the study area for the Bacteria TMDL for the Appomattox.

Appomattox River	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>8.73</b>

Sources:

Agriculture	Industrial Point Source Discharge	Municipal Point Source Discharges	Non-Point Source
-------------	--------------------------------------	--------------------------------------	------------------

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **J14L-01-DO**      **Lake Chesdin**

Location: Lake Chesdin

City / County: Chesterfield Co.      Dinwiddie Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Oxygen, Dissolved / 5A

For 2004, Dissolved oxygen violations in bottom waters during stratification. The Trophic State Index (TSI) was acceptable in the deeper areas, but exceeded 60 in the shallow backwaters. Therefore the reservoir is impaired.

for 2006 the DO violation rates for the monitoring stations on Lake Chesdin were: 10/41 in the epilimnion and 26/26 in the hypolimnion at 2-APP020.23; 7/36 in the epilimnion and 8/10 in the hypolimnion at 2-APP23.27; and 5/28 in the epilimnion at 2-APP026.67. TSIs were not calculated.

Station 2-APP028.59 had observed effects for Total Phosphorus with a violation rate of 3/6. Station 2-APP026.67 had observed effects for Total Phosphorus with a standards violation rate of 3/7. Station 2-APP029.23 (J12L) was assessed with the Lake Chesdin stations in J14L. There were no impairments recorded at this station for the 2006 cycle.

Chesdin Lake was assessed as Cat. 5A for DO violations. Monitoring for these stations ceased in 2001.

2005 fish and sediment samples were taken and there was mercury and arsenic in one species of fish.

In 2008 this lake was impaired for DO the violation rate for all the stations was 53/280.

Lake Chesdin	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
Oxygen, Dissolved - Total Impaired Size by Water Type:		3,164.41	

Sources:  
Source Unknown



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **J15E-01-BAC**

**Appomattox River**

Location: Tidal Appomattox River

City / County: Chesterfield Co.

Hopewell City

Prince George Co.

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A

The segment was assessed not supporting of the Recreation use support goal based on fecal coliform violations at 2-APP001.53 near the Route 10 bridge. The segment was initially listed in 1998, therefore the TMDL is due in 2010.

The bacteria TMDL for the Appomattox River was completed and approved by EPA on 8/30/2004. The segment should be assessed as Cat. 4A.

In 2006, the bacteria impairment switched from fecal coliform to E. coli.

For the 2008 cycle the lower portion of the Appomattox segment fails for the recreation use with a violation rate of 5/40 at station 2-APP001.53. The Appomattox upstream of mile 5 is fully supporting for E.coli with a violation rate of 1/10 at station 2-APP009.52 and should be assessed as category 2C.

Appomattox River

**Recreation**

Estuary  
(Sq. Miles)

Reservoir  
(Acres)

River  
(Miles)

Escherichia coli - Total Impaired Size by Water Type:

**1.625**

Sources:

Agriculture

Industrial Point Source  
Discharge

Municipal Point Source  
Discharges

Non-Point Source

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **J15R-01-BAC**      **Appomattox River**

Location: Appomattox River from the Lake Chesdin dam downstream to the fall line at the Route 1/301 bridge.

City / County: Chesterfield Co.      Dinwiddie Co.      Petersburg City

Use(s): Recreation

Cause(s) /  
VA Category: Fecal Coliform / 4A

In 2002, the segment was assessed not supporting of the Recreation use support goal based on fecal coliform violations at the Route 36 bridge (2-APP012.79).

The bacteria TMDL Development for the Appomattox River was completed and approved by EPA on 8/30/2004. The segment was assessed as Cat. 4A,

In 2006, the bacteria impairment switched from fecal coliform to E. coli. The bacteria violation rate for the 2008 cycle was 6/33 for E.coli at station 2-APP012.79

Appomattox River	Estuary	Reservoir	River
<b>Recreation</b>	(Sq. Miles)	(Acres)	(Miles)
Fecal Coliform - Total Impaired Size by Water Type:			<b>7.50</b>

Sources:

Agriculture	Municipal Point Source Discharges	Non-Point Source
-------------	-----------------------------------	------------------

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **J15R-02-BAC**      **Oldtown Creek**

Location: Oldtown Creek from the confluence with Big Branch downstream to its tidal limit.

City / County: Chesterfield Co.      Colonial Heights City

Use(s): Recreation

Cause(s) /  
VA Category: Fecal Coliform / 5A

In 2006, the segment was also assessed as not supporting for recreation use due to a fecal coliform violation rate of 2/12 at station 2-OTC001.54.

For the 2008 cycle there was no new data. There was no E.coli monitoring for this segment

The source of the violations are unknown, but may be due to natural conditions.

In 2006, the segment was also assessed as not supporting for recreation use due to a fecal coliform violation rate of 2/12 at station 2-OTC001.54.

In 2008 there was no new data, and was not assessed for E.coli

Oldtown Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Fecal Coliform - Total Impaired Size by Water Type:			<b>4.10</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **J15R-02-DO**      **Oldtown Creek**

Location: Oldtown Creek from the confluence with Big Branch downstream to its tidal limit.

City / County: Chesterfield Co.      Colonial Heights City

Use(s): Aquatic Life

Cause(s) /  
VA Category: Oxygen, Dissolved / 5C

The segment was assessed not supporting of the Aquatic Life use support goal based on dissolved oxygen violations at the Conduit Road bridge (2-OTC001.54).

The source of the violations are unknown, but may be due to natural conditions.

Oldtown Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>4.10</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **J15R-03-BAC**      **Harrison Creek**

Location: The mainstem of Harrison Creek.

City / County: Chesterfield Co.      Colonial Heights City

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

The segment was assessed not supporting of the Recreation use support goal based on fecal coliform violations at USGS stations 02041758 and 02041760.

In 2006, the bacteria impairment switched from fecal coliform to E. coli. Monitoring at DEQ station 2-HRA000.85 recorded E. coli violations at a rate of 2/4.

In 2008 cycle E. coli violation rate at station 2-HRA000.85 was 6/16

Harrison Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>2.37</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **J15R-04-BAC**      **Poor Creek**

Location: The mainstem of Poor Creek.

City / County: Chesterfield Co.      Petersburg City

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A      Fecal Coliform / 5A

In 2004, the segment was assessed not supporting of the Recreation use support goal based on fecal coliform violations at USGS station 02041745.

No additional data to assess for the 2006 cycle.  
No additional data to assess for the 2008 cycle.

Poor Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>8.08</b>
Poor Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Fecal Coliform - Total Impaired Size by Water Type:			<b>3.10</b>

Sources:  
Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **J15R-05-BAC**      **Rohoic Creek**

Location: Mainstem Rohoic Creek from headwaters to mouth

City / County: Dinwiddie Co.      Petersburg City

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

In 2006, this segment of Rohoic Creek was assessed as not supporting for the Recreation Use due to an E. coli violation rate of 2/9 at station 2-RHC000.58 at Route 460.

In 2008 the segment was still not supporting for the recreation use due to a E.coli violation rate of 2/11 at station 2-RHC000.58

Rohoic Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>6.78</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **J15R-06-BAC** Lieutenant Run

Location: The mainstem Lieutenant Run to mouth of Appomattox

City / County: Petersburg City

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 5A

In 2008, this segment was assessed as not supporting for the recreation use due to an E. coli violation rate of 4/10 at station 2-LTC000.08.

Lieutenant Run	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>3.47</b>

Sources:

Source Unknown



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **J16R-01-BAC**      **Swift Creek**

Location: Swift Creek from Turkey Creek downstream to the normal pool of Swift Creek Reservoir.

City / County: Chesterfield Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 4A

In 1998 the segment was listed as fully supporting but threatened of the Recreation Use goal. During the 2002 cycle, the segment was downgraded to partially supporting. During the year 2004 cycle, the segment was assessed not supporting of the Recreation use goal based on fecal coliform violations at the Route 657 bridge (2-SFT036.00). The fecal TMDL was due in 2014.

Bacteria TMDL for Swift Creek was included the TMDL for the Appomattox River development report and was approved by EPA 8/30/2004. The segment is now assessed as Cat 4A.

Swift Creek was initially assessed for fecal coliform in 2002 . In the 2006 cycle, the bacteria impairment switched to E. coli. During the 2006 cycle, the violation rate for E. coli was 4/22 at 2-SFT036.00.

For the 2008 cycle there was an impairment for E.coli. the violation rate was 4/23

Swift Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:			<b>1.79</b>

Sources:

Agriculture                      Non-Point Source

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **J16R-01-PH**      **Swift Creek**

Location: Swift Creek from Turkey Creek downstream to the normal pool of Swift Creek Reservoir.

City / County: Chesterfield Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 5C

For the 2008 cycle the pH was impaired for the recreation use. The violation rate was 3/27, these are due to natural conditions

Swift Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			1.79

### Sources:

- Natural Conditions - Water
- Quality Standards Use
- Attainability Analyses
- Needed

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **J16R-02-DO**      **Blackman Creek**

Location: Mainstem from its headwaters to its mouth at the confluence of Deep Creek and Horsepen Creek

City / County: Chesterfield Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Oxygen, Dissolved / 5C

The segment is considered impaired of the Aquatic Life Use based on a dissolved oxygen violation at the Route 668 bridge (2-BCM000.79). In addition, phosphorus was listed as an observed effect in the segment.

The DO standards violation rate for Blackman Creek was 6/12 at the Rt. 668 bridge. However, it is suspected the low DO is due to natural conditions of the watershed. Therefore, for the 2006 cycle, Blackman Creek is assessed as Cat. 5C.

The 2008 cycle the violation rate for DO was 6/12

Blackman Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>4.45</b>

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **J16R-02-PH**      **Blackman Creek**

Location: Mainstem from its headwaters to its mouth at the confluence of Deep Creek and Horsepen Creek

City / County: Chesterfield Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 5C

The segment is considered impaired of the Aquatic Life Use based on pH violations at the Route 668 bridge (2-BCM000.79). In addition, phosphorus was listed as an observed effect in the segment.

The pH standards violation rate for Blackman Creek was 3/12 at the Rt. 668 bridge. However, it is suspected the low pH is due to natural conditions of the watershed. Therefore, for the 2006 cycle, Blackman Creek is assessed as Cat. 5C.

The 2008 cycle the violation rate for pH was 4/12.

Blackman Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
Aquatic Life			
pH - Total Impaired Size by Water Type:			4.45

Sources:

Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

---

## James River Basin

Cause Group Code **J17E-01-BAC**

### Swift Creek

Location: Mainstem from confluence with Timsbury Creek downstream to mouth

City / County: Chesterfield Co. Colonial Heights City

Use(s): Recreation

Cause(s) /

VA Category: Escherichia coli / 4A

In 2006 this segment was assessed as not supporting for the recreation use due to an E. coli violation rate of 3/4 at 2DSFT001.18.

Although this segment was not specifically addressed in the Appomattox bacteria TMDL report, The upstream and downstream portions of the Appomattox were included, therefore this segment will be addressed in the implementation phase and is assessed as Cat. 4A.

in 2008 this segment was impaired for the recreation use with a violation rate of 5/16 at station 2DSFT001.18.

---

Swift Creek	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Recreation</b>			
Escherichia coli - Total Impaired Size by Water Type:		<b>0.087</b>	

---

#### Sources:

Agriculture

Industrial Point Source  
Discharge

Municipal Point Source  
Discharges

Non-Point Source

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **J17L-01-DO**      **Swift Creek Lake**

Location: Swift Creek Lake

City / County: Chesterfield Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Oxygen, Dissolved / 5A

In 2006 the reservoir was impaired for DO in bottom waters during summer months due to stratification and the lake being drained in 2003. The Trophic State Index (TSI) is acceptable except for Secchi TSI = 67 (TSI >60). Since the Secchi TSI is larger than the Phos and Chl\_a TSIs, the Secchi TSI is ignored and the segment is considered naturally impaired due to stratification.

For 2008 cycle there was no new data; Swift Creek Lake does not have defined nutrient criteria therefore the segment was moved to Cat 5A.

Swift Creek Lake	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>102.42</b>

Sources:

Changes in Ordinary Stratification and Bottom Water Hypoxia/Anoxia	Dam or Impoundment
--	--------------------

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **J17L-02-DO** Lakeview Reservoir

Location: Lakeview Reservoir

City / County: Chesterfield Co. Colonial Heights City

Use(s): Aquatic Life

Cause(s) /  
VA Category: Oxygen, Dissolved / 5A

For the 2008 cycle the D.O. failed in the bottom depths during the summer months due to stratification. This lake should be added to the WQS, and nutrient criteria should be developed

Lakeview Reservoir	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:		<b>42.69</b>	

Sources:

Changes in Ordinary  
Stratification and Bottom  
Water Hypoxia/Anoxia

Dam or Impoundment

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **J17R-01-BAC**      **Swift Creek**

Location: Swift Creek from the Swift Creek Lake dam downstream to its confluence with Licking Creek.

City / County: Chesterfield Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 4A

In 2002, the segment was considered partially supporting of the Recreation use support goal based on water quality monitoring performed at the Route 655 bridge (2-SFT019.15).

Swift Creek was initially assessed for fecal coliform in 2002. During the 2006 cycle, the bacteria parameter switched to E. coli.

During the year 2004 cycle, this segment of Swift Creek had an acceptable fecal coliform violation rate and was recommended for delisting of the Recreation use impairment.

In 2006, the E. coli violation rate was 2/12 at 2-SFT019.15.

Bacteria TMDL for Swift Creek was included the TMDL for the Appomattox River development report and was approved by EPA 8/30/2004. The segment is now assessed as Cat 4A.

In 2008 The bacteria violation rate was 3/22 at station 2-SFT019.15

Swift Creek	Estuary	Reservoir	River
Recreation	(Sq. Miles)	(Acres)	(Miles)
Escherichia coli - Total Impaired Size by Water Type:			7.10

Sources:

Agriculture	Municipal Point Source Discharges	Non-Point Source
-------------	-----------------------------------	------------------



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **J17R-01-DO**      **Swift Creek**

Location: Swift Creek from the Swift Creek Lake dam downstream to its confluence with Licking Creek.

City / County: Chesterfield Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: Oxygen, Dissolved / 5C

In 1998, Swift Creek was assessed as threatened of the Aquatic Life Use due to dissolved oxygen violations. In 2002, the segment was considered partially supporting of the Aquatic Life use support goal based on water quality monitoring performed at the Route 655 bridge (2-SFT019.15). During the year 2004 cycle, the segment continued to show dissolved oxygen problems.

In 2006, the DO violation rate was 3/22 at the Rt. 655 bridge. However, it is suspected the low DO violations in this segment of Swift Creek are due to an upstream impoundment, therefore will be assessed as Cat. 5C.

In 2008 cycle, the DO violation rate was 4/26 at the Rt. 655 bridge. However, it is suspected the low DO violations in this segment of Swift Creek are due to an upstream impoundment, therefore will be assessed as Cat. 5C

Swift Creek	Estuary	Reservoir	River
<b>Aquatic Life</b>	(Sq. Miles)	(Acres)	(Miles)
Oxygen, Dissolved - Total Impaired Size by Water Type:			<b>7.10</b>

Sources:  
Dam or Impoundment

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **J17R-03-PH**      **Franks Branch**

Location: The mainstem of Franks Branch

City / County: Chesterfield Co.

Use(s): Aquatic Life

Cause(s) /  
VA Category: pH / 5A

The segment was assessed as not supporting for aquatic life use due to a pH violation rate of 3/12 at the Rt. 626 bridge, 2-FNK001.12.

There was a pH violation rate of 16/23 recorded Chesterfield Co at both WQ-10 and WQ-11. These data are not acceptable for an impairment but will be assessed as an observed effect for low pH.

for the 2008 cycle the segment was assessed again as not supporting for aquatic life use due to a pH violation rate of 3/12. there was also a pH violation rate of 16/23 recorded for Chesterfield Co at both WQ-10 and WQ-11. These data sets are not acceptable for an impairment but will be assessed as an observed effect for low pH.

Franks Branch	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
pH - Total Impaired Size by Water Type:			<b>10.02</b>

Sources:  
Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **J17R-04-BAC**      **Swift Creek**

Location: Swift Creek from the confluence with Licking Creek downstream to its confluence with Franks Branch.

City / County: Chesterfield Co.

Use(s): Recreation

Cause(s) /  
VA Category: Escherichia coli / 4A

During the 2006 cycle, this segment of Swift Creek was assessed as not supporting for Recreation use due to an E. coli violation rate of 3/9 that was recorded at the Rt. 631 bridge (2-SFT012.84).

Bacteria TMDL for the Appomattox River development report was completed and approved by EPA on 8/30/2004. Though allocations were calculated for Swift Creek, this segment was not included in the study. Additional monitoring is recommended to better determine if the bacteria impairment will improve with implementation of the TMDL. Therefore this segment will be assessed as Cat. 4A

There was a pH violation rate of 7/24 recorded by Chesterfield Co at WQ-12, which is collocated with 2-SFT012.84. These data were not acceptable for an impairment but was assessed as an observed effect for low pH.

For the 2008 cycle the E.coli violation rate was 3/11 at station 2-SFT012.84 and still impaired for the recreation use and was changed to category 4A since the TMDL was completed for other portions of swift creek.

Swift Creek	Estuary	Reservoir	River
<b>Recreation</b>	(Sq. Miles)	(Acres)	(Miles)
Escherichia coli - Total Impaired Size by Water Type:			<b>5.08</b>

Sources:  
Source Unknown

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **JMSMH-DO-BAY** James River CBP segment JMSMH and Tidal Tributaries

Location: This cause encompasses the entirety of the James River CBP segment JMSMH and tidal tributaries. From start of JMSMH salinity boundary (Hog Isl. Cr.) downstream to line between Blunt Point NN) /Goodwin Pt. (Isle of Wight). CBP segment JMSMH.

City / County: Isle Of Wight Co. James City Co. Newport News City Portsmouth City Suffolk City  
Surry Co.

Use(s): Aquatic Life Open-Water Aquatic Life

Cause(s) /

VA Category: Oxygen, Dissolved / 5A

The Aquatic Life and Open-Water Aquatic Life Use is impaired based on failure to meet the dissolved oxygen criteria for Open Water - Summer. The 30-day dissolved oxygen criteria for open water use failed for the 2008 assessment. There is insufficient data to assess remaining shorter-term dissolved oxygen criteria for this use. The mainstem James River was included in EPA's 1998 303(d) Overlisting as impaired of the Aquatic Life Use; the impairment was attributed to excessive nutrients. During the 2006 cycle, the revised Chesapeake Bay water quality standards were adopted.

1998 CD segment for nutrients (Attachment A, Category 1, Part 2) VAT-G10E-04.

James River CBP segment JMSMH and Tidal Tributaries	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:	<b>118.427</b>		

James River CBP segment JMSMH and Tidal Tributaries	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Open-Water Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:	<b>118.427</b>		

### Sources:

Agriculture	Atmospheric Deposition - Nitrogen	Industrial Point Source Discharge	Internal Nutrient Recycling
Loss of Riparian Habitat	Municipal Point Source Discharges	Sources Outside State Jurisdiction or Borders	Wet Weather Discharges (Non-Point Source)
Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)			

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **JMSOH-DO-BAY**      **James River Oligohaline Estuary**

Location: The James River Oligohaline Estuary.

City / County: Charles City Co.      Isle Of Wight Co.      James City Co.      Newport News City      Surry Co.  
Williamsburg City

Use(s): Aquatic Life      Open-Water Aquatic Life

Cause(s) /

VA Category: Oxygen, Dissolved / 5A

The mainstem James River from the Appomattox River to the Chickahominy River was originally listed on the 1998 list as fully supporting but threatened of the Aquatic Life Use goal based on chlorophyll a violations. During the 1998 cycle, EPA extended the segment upstream to the fall line and downgraded the river to not supporting the Aquatic Life Use, citing nutrient concerns.

In previous cycles, the mainstem James River had acceptable dissolved oxygen levels.

During the 2006 cycle, the CB water quality standards were implemented. The entire Oligohaline James River estuary failed the 30-day Open Water summer dissolved oxygen criteria.

James River Oligohaline Estuary	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:	<b>49.262</b>		
James River Oligohaline Estuary	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Open-Water Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:	<b>49.262</b>		

### Sources:

Agriculture	Atmospheric Deposition - Nitrogen	Industrial Point Source Discharge	Internal Nutrient Recycling
Loss of Riparian Habitat	Municipal Point Source Discharges	Sources Outside State Jurisdiction or Borders	Wet Weather Discharges (Non-Point Source)
Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)			

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **JMSOH-SAV-BAY** James River Oligohaline Estuary

Location: The James River Oligohaline Estuary.

City / County: Charles City Co. Isle Of Wight Co. James City Co. Newport News City Surry Co.  
Williamsburg City

Use(s): Aquatic Life Shallow-Water Submerged  
Aquatic Vegetation

Cause(s) /

VA Category: Aquatic Plants (Macrophytes) / 5A

The mainstem James River from the Appomattox River to the Chickahominy River was originally listed on the 1998 list as fully supporting but threatened of the Aquatic Life Use goal based on chlorophyll a violations. During the 1998 cycle, EPA extended the segment upstream to the fall line and downgraded the river to not supporting the Aquatic Life Use, citing nutrient concerns.

In previous cycles, the mainstem James River had acceptable dissolved oxygen levels.

During the 2006 cycle, the CB water quality standards were implemented. The entire Oligohaline James River estuary failed the Shallow Water Use SAV acreage criteria.

James River Oligohaline Estuary	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Aquatic Plants (Macrophytes) - Total Impaired Size by Water Type:	<b>49.262</b>		

James River Oligohaline Estuary	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Shallow-Water Submerged Aquatic Vegetation</b>			
Aquatic Plants (Macrophytes) - Total Impaired Size by Water Type:	<b>49.262</b>		

### Sources:

Agriculture	Atmospheric Deposition - Nitrogen	Clean Sediments	Industrial Point Source Discharge
Internal Nutrient Recycling	Loss of Riparian Habitat	Municipal Point Source Discharges	Sediment Resuspension (Clean Sediment)
Sources Outside State Jurisdiction or Borders	Wet Weather Discharges (Non-Point Source)	Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)	

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **JMSTFL-DO-BAY**     **James River Tidal Freshwater (Lower) Estuary**

Location: The James River Lower Tidal Freshwater Estuary.

City / County: Charles City Co.     Chesterfield Co.     Hopewell City     Prince George Co.     Surry Co.

Use(s): Aquatic Life     Open-Water Aquatic Life

Cause(s) /

VA Category: Oxygen, Dissolved / 5A

The mainstem James River from the Appomattox River to the Chickahominy River was originally listed on the 1998 list as fully supporting but threatened of the Aquatic Life Use goal based on chlorophyll a violations. During the 1998 cycle, EPA extended the segment upstream to the fall line and downgraded the river to not supporting the Aquatic Life Use, citing nutrient concerns.

In previous cycles, the mainstem James River had acceptable dissolved oxygen levels. In addition the entire tidal freshwater portion (fall line to just above the Chickahominy River) has good benthic community based on the results from the Chesapeake Bay Benthic Index of Biological Community; therefore the James River from the fall line to the oligohaline boundary was considered impaired solely for Nutrients/Eutrophication Biological Indicators (EPA Overlist).

Several tributaries within the James River system, including tidal Bailey Bay, had previously been listed for dissolved oxygen.

During the 2006 cycle, the CB water quality standards were implemented. The Lower Tidal Freshwater James River segment failed the 30-day Open Water summer dissolved oxygen criteria. There was insufficient information to assess the other OW criteria or the Migratory Spawning Use.

James River Tidal Freshwater (Lower) Estuary		Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>				
Oxygen, Dissolved - Total Impaired Size by Water Type:		<b>29.145</b>		
James River Tidal Freshwater (Lower) Estuary		Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Open-Water Aquatic Life</b>				
Oxygen, Dissolved - Total Impaired Size by Water Type:		<b>29.145</b>		

### Sources:

Agriculture	Atmospheric Deposition - Nitrogen	Industrial Point Source Discharge	Internal Nutrient Recycling
Loss of Riparian Habitat	Municipal Point Source Discharges	Sources Outside State Jurisdiction or Borders	Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **JMSTFL-SAV-BAY** James River Tidal Freshwater (Lower) Estuary

Location: The James River Lower Tidal Freshwater Estuary.

City / County: Charles City Co. Chesterfield Co. Hopewell City Prince George Co. Surry Co.

Use(s): Aquatic Life Shallow-Water Submerged  
Aquatic Vegetation

Cause(s) /

VA Category: Aquatic Plants (Macrophytes) / 5A

The James River from the Appomattox River to the Chickahominy River was originally listed on the 1998 list as fully supporting but threatened of the Aquatic Life Use goal based on chlorophyll a violations. During the 1998 cycle, EPA extended the segment upstream to the fall line and downgraded the river to not supporting the Aquatic Life Use, citing nutrient concerns.

In previous cycles, the mainstem James River had acceptable dissolved oxygen levels. In addition the entire tidal freshwater portion (fall line to just above the Chickahominy River) has good benthic community based on the results from the Chesapeake Bay Benthic Index of Biological Community; therefore the James River from the fall line to the oligohaline boundary was considered impaired solely for Nutrients/Eutrophication Biological Indicators (EPA Overlist).

During the 2006 cycle, the CB water quality standards were implemented. The Lower Tidal Freshwater James River from the Appomattox to the Oligohaline boundary failed the Shallow Water Use SAV criteria.

James River Tidal Freshwater (Lower) Estuary		Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>				
Aquatic Plants (Macrophytes) - Total Impaired Size by Water Type:		<b>29.145</b>		
James River Tidal Freshwater (Lower) Estuary		Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Shallow-Water Submerged Aquatic Vegetation</b>				
Aquatic Plants (Macrophytes) - Total Impaired Size by Water Type:		<b>29.145</b>		

### Sources:

Agriculture	Atmospheric Deposition - Nitrogen	Clean Sediments	Industrial Point Source Discharge
Internal Nutrient Recycling	Loss of Riparian Habitat	Municipal Point Source Discharges	Sediment Resuspension (Clean Sediment)
Sources Outside State Jurisdiction or Borders	Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)		



# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **JMSTFU-SAV-BAY** James River Tidal Freshwater (Upper) Estuary

Location: The James River Tidal Freshwater Upper estuary, which extends from the fall line to approximately the Appomattox River, including tributaries.

City / County: Charles City Co. Chesterfield Co. Henrico Co. Richmond City

Use(s): Aquatic Life Shallow-Water Submerged Aquatic Vegetation

Cause(s) /  
VA Category: Aquatic Plants (Macrophytes) / 5A

The mainstem James River from the Appomattox River to the Chickahominy River was originally listed on the 1998 list as fully supporting but threatened of the Aquatic Life Use goal based on chlorophyll a violations. During the 1998 cycle, EPA extended the segment upstream to the fall line and downgraded the river to not supporting the Aquatic Life Use, citing nutrient concerns.

In previous cycles, the mainstem James River had acceptable dissolved oxygen levels. In addition the entire tidal freshwater portion (fall line to just above the Chickahominy River) has good benthic community based on the results from the Chesapeake Bay Benthic Index of Biological Community; therefore the James River from the fall line to the oligohaline boundary was considered impaired solely for Nutrients/Eutrophication Biological Indicators (EPA Overlist).

During the 2006 cycle, the CB water quality standards were implemented. The Upper Tidal Freshwater James River from the fall line to the Appomattox failed the Shallow Water Use SAV criteria. The 30-day Open Water dissolved oxygen criteria were acceptable, but there was insufficient information to assess the other OW criteria or the Migratory Spawning Use.

James River Tidal Freshwater (Upper) Estuary	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Aquatic Plants (Macrophytes) - Total Impaired Size by Water Type:	<b>7.726</b>		

James River Tidal Freshwater (Upper) Estuary	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Shallow-Water Submerged Aquatic Vegetation</b>			
Aquatic Plants (Macrophytes) - Total Impaired Size by Water Type:	<b>7.726</b>		

### Sources:

Agriculture	Atmospheric Deposition - Nitrogen	Clean Sediments	Industrial Point Source Discharge
Internal Nutrient Recycling	Loss of Riparian Habitat	Municipal Point Source Discharges	Sediment Resuspension (Clean Sediment)
Sources Outside State Jurisdiction or Borders	Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)		

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **LAFMH-DO-BAY** Chesapeake Bay segment LAFMH (Lafayette River)

Location: This cause encompasses the complete Lafayette River

City / County: Norfolk City

Use(s): Aquatic Life Open-Water Aquatic Life

Cause(s) /

VA Category: Oxygen, Dissolved / 5A

The Aquatic Life and Open-Water Aquatic Life Use is impaired based on failure to meet the dissolved oxygen criteria for Open Water - Summer. The 30-day dissolved oxygen criteria for open water use failed for the 2008 assessment. There is insufficient data to assess remaining shorter-term dissolved oxygen criteria for this use.

Chesapeake Bay segment LAFMH (Lafayette River)

**Aquatic Life**

Oxygen, Dissolved - Total Impaired Size by Water Type:

Estuary  
(Sq. Miles)

**2.163**

Reservoir  
(Acres)

River  
(Miles)

Chesapeake Bay segment LAFMH (Lafayette River)

**Open-Water Aquatic Life**

Oxygen, Dissolved - Total Impaired Size by Water Type:

Estuary  
(Sq. Miles)

**2.163**

Reservoir  
(Acres)

River  
(Miles)

### Sources:

Agriculture

Atmospheric Deposition -  
Nitrogen

Industrial Point Source  
Discharge

Internal Nutrient Recycling

Loss of Riparian Habitat

Municipal Point Source  
Discharges

Sources Outside State  
Jurisdiction or Borders

Wet Weather Discharges  
(Non-Point Source)

Wet Weather Discharges  
(Point Source and  
Combination of Stormwater,  
SSO or CSO)

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **SBEMH-DO-BAY** Chesapeake Bay segment SBEMH (Southern Branch, Elizabeth River)

Location: This cause encompasses the complete CPB segment SBEMH

City / County: Chesapeake City      Norfolk City      Portsmouth City      Virginia Beach City

Use(s): Aquatic Life      Deep-Water Aquatic Life      Open-Water Aquatic Life

Cause(s) /

VA Category: Oxygen, Dissolved / 5A

The Aquatic Life and Open-Water Aquatic Life Use is impaired based on failure to meet the dissolved oxygen criteria for Open Water - Summer. The 30-day dissolved oxygen criteria for open water and deep water uses failed for the 2008 assessment. There is insufficient data to assess the remaining shorter-term dissolved oxygen criteria for these uses.

Chesapeake Bay segment SBEMH (Southern Branch, Elizabeth River)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:	<b>4.111</b>		
Chesapeake Bay segment SBEMH (Southern Branch, Elizabeth River)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Deep-Water Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:	<b>2.390</b>		
Chesapeake Bay segment SBEMH (Southern Branch, Elizabeth River)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Open-Water Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:	<b>4.111</b>		

### Sources:

Agriculture	Atmospheric Deposition - Nitrogen	Industrial Point Source Discharge	Internal Nutrient Recycling
Loss of Riparian Habitat	Municipal Point Source Discharges	Sources Outside State Jurisdiction or Borders	Wet Weather Discharges (Non-Point Source)
Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)			

# Appendix A - List of Impaired (Category 5) Waters in 2008\*

## James River Basin

Cause Group Code **WBEMH-DO-BAY** Chesapeake Bay segment WBEMH (Western Branch, Elizabeth River)

Location: This cause encompasses the complete CPB segment WBEMH

City / County: Chesapeake City Portsmouth City

Use(s): Aquatic Life Open-Water Aquatic Life

Cause(s) /

VA Category: Oxygen, Dissolved / 5A

The Aquatic Life and Open-Water Aquatic Life Use is impaired based on failure to meet the dissolved oxygen criteria for Open Water - Summer. The 30-day dissolved oxygen criteria for open water use failed for the 2008 assessment. There is insufficient data to assess remaining shorter-term dissolved oxygen criteria for this use.

Chesapeake Bay segment WBEMH (Western Branch, Elizabeth River)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:	<b>2.258</b>		

Chesapeake Bay segment WBEMH (Western Branch, Elizabeth River)	Estuary (Sq. Miles)	Reservoir (Acres)	River (Miles)
<b>Open-Water Aquatic Life</b>			
Oxygen, Dissolved - Total Impaired Size by Water Type:	<b>2.258</b>		

### Sources:

Agriculture	Atmospheric Deposition - Nitrogen	Industrial Point Source Discharge	Internal Nutrient Recycling
Loss of Riparian Habitat	Municipal Point Source Discharges	Sources Outside State Jurisdiction or Borders	Wet Weather Discharges (Non-Point Source)
Wet Weather Discharges (Point Source and Combination of Stormwater, SSO or CSO)			